DOCTOR OF PHILOSOPHY

Knowledge of and for Social Work
A Philosophical, Professional and Methodological Inquiry

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Knowledge of and for Social Work:

A Philosophical, Professional and Methodological Inquiry

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“Von Herzen—Möge es wieder—Zu Herzen gehn!”

[Ludwig van Beethoven]

Declaration

I, Steven John Hothersall hereby declare that:

I am the sole author of this thesis: all references cited have been consulted by me: the work of which this thesis is a record is mine and mine alone: this thesis has not been previously submitted nor accepted for a higher degree.

Signed

30th April 2015

Summary

This thesis explores the ways in which professionals (in particular, social work professionals) *define, produce, transfer, use, develop* and *disseminate* knowledge of and for their profession and their practice. The thesis considers the issue(s) of professional knowledge from three related but distinct perspectives: philosophical, methodological and professional.

From a philosophical perspective, the thesis articulates and examines the underpinning principles of epistemology and considers to what extent the professional social work knowledge debate has been informed by reference to these, and whether the application of appropriate epistemic principles has anything to offer the professions(s) in terms of its knowledge requirements.

Methodologically, the thesis is informed by the history of the philosophy of science regarding the nature of inquiry. These considerations provide a clear paradigmatic rationale and context for the utilisation of a mixed-methods approach to the empirical content, with Q-Factor analysis being the quantitative method of choice, supported by semi-structured interviews.

From a professional perspective, the thesis explores the views of those professionals actively engaged in those processes of defining, producing, transferring, using, developing and disseminating knowledge of and for social work. These three perspectives are here combined to provide a means by which the views and understandings of professionals can be articulated in meaningful ways and used to inform future discussion and practice regarding professional knowledge forms.

The findings within this thesis reveal the differing ways professional social workers both theorise about and engage with knowledge in its many and varied forms. The findings also highlight the ways in which influences external to the individual affect how knowledge is, or is not used, and how some forms of knowledge appear to have preferential status. The conclusions suggest ways of responding to and addressing these issues by reference to a new pragmatic epistemology for the profession(s), which takes cognisance of the contemporary professional zeitgeist.

Chapter 1: Context, Overview and Structure of the Thesis

> *"Philosophy of science without history of science is empty; history of science without philosophy of science is blind"* (Lakatos 1971:91).

1.0 Context and Overview

This thesis aims to explore the ways in which professionals (in particular, social work professionals) *define, produce, transfer, use, develop* and *disseminate* knowledge of and for their profession and their practice. The thesis will initially examine the philosophical/theoretical issues regarding (professional) knowledge in order to provide a background and context for the empirical elements that follow, which themselves aim to investigate and explore contemporary approaches to knowledge definition, production, transfer, use, development and dissemination by reference to the practitioner's own voice. In undertaking such inquiry, recourse to general philosophy, the philosophy of science and that of epistemology in particular is essential in order to provide a basis from which to explore the functional relevance of epistemological principles in contemporary social work (and professional) practice. In addition, cognisance is required of the central role of language in such discourse in terms of how it functions in relation to account(s) of ontology and, ergo, the particular epistemologies emerging from and relating to this.

This orients us towards the role of language in depicting the two major 'worldviews' ('weltanschauung') extant (broadly) in relation to the philosophy of science and epistemology – *realist* and *constructivist* (Aerts *et al* 1994; Vidal 2012). It is these (somewhat dichotomous) positions revolving around the *objective* and the *subjective* that this thesis attempts to engage with and to consider by reference to a third, more inclusive, pluralistic or *intersubjective* worldview; that of pragmatism. Within this, the issue of the constitutive nature of language must be acknowledged and its potential implications considered, irrespective of the nature, integrative or otherwise, of any particular worldview. Vidal (2012:1) refers to these three worldviews and outlines their respective metaphilosophical attributes as a means

of aiding an understanding of how analysis of philosophical theory might proceed under the aegis of each: *Objective*: objective consistency, scientificity, scope; *subjective*: subjective consistency, personal utility, emotionality; *intersubjective*: intersubjective consistency, collective utility, narrativity. Axiomatically, the presence of differing worldviews presupposes a particular function for language in their very constitution.

Thus, the theoretical and (meta-) philosophical components (Rescher 1994) seek to provide both an account of the extant debate within social work/professional practice regarding knowledge, whilst the (specifically) philosophical component seeks to clearly articulate the myriad discussions and debates within and across philosophy, an understanding of which represents a possible route out of the many (mis)representations regarding the structure, function(s) and role of knowledge in contemporary professional practice. Having provided the background to the current terrain, the thesis then seeks to explore *empirically* the ways in which practitioners currently define, produce, transfer, use, develop and disseminate knowledge.

On the basis of this, the thesis aims to articulate a credible and functional epistemology for the profession(s), which avoids the many circuitous and rhetorical arguments about knowledge of and for the professions that exist today. In essence, the profession of social work and many other cognate disciplines are themselves engaged in the business of knowledge use to further and better our understanding of the world and ourselves, and to improve the human condition. So to explore and add to the extant corpus *of knowledge about knowledge* in a way that those using such knowledge (in all ways) find meaningful, practical and productive has huge potential and both professional and academic merit. Inquiry of the sort undertaken here, and in this particular form utilising philosophical argument and empirical research via the use of mixed-methods, allows a picture to emerge of the contemporary professional knowledge terrain through the perspectives of practitioners which can then be considered by reference to philosophical argument:

> ‘*Philosophy seeks to bring rational order, system, and intelligibility to the confusing diversity of our cognitive affairs. It strives for orderly arrangements*

> *in the cognitive sphere that will enable us to find our way about in the world in an effective and satisfying way. Philosophy is indeed a venture in theorising, but one whose rationale is entirely practical.'* (Rescher 1994 p5).

Thus, there is a symbiosis evident in terms of both theory and praxis: each is necessary for the other. The philosophical argument provides the basis for the empirical exploration of its functional relevance to contemporary professional (social work) practice as seen through the eyes of practitioners which, reflexively, permits philosophical, statistical and interpretative analysis of empirical findings to inform the professional knowledge debate in a *structured* way. In its current state, the debate continues to present as both confused and confusing. The theoretical components enable analysis to proceed in a robust way by reference to relevant, underpinning and explanatory concepts, informed by empirical findings. Thereafter, such analysis may be translated and transposed back into the 'lifeworld' (*Lebenswelt*) (Husserl 1936) of the practitioner and the professional terrain. Thus, empirical work is essential to breath life into the theoretical constructs that offer shape to the notion of professional knowledge.

These accounts regarding professional knowledge, obtained via both quantitative and qualitative means offers the potential for significant insight into the ways in which professional social workers define, produce, transfer, use, develop and disseminate knowledge, and on this basis, provide a functionally relevant analysis and a practice framework to enhance the value afforded to all relevant knowledge forms extant within the professional domain. Thus, the use of philosophical inquiry to explore the functional relevance (practical uses) of epistemological principles underpinning (professional) knowledge use as illustrated by reference to empirical inquiry realigns and integrates the practical and conceptual in ways that resonate with the underlying purposes of 'practical philosophy' (Heller 1984; Toulmin 1990).

It is therefore essential (if not entirely axiomatic) that inquiry into the nature of knowledge itself should include empirically-based explorations regarding both the contemporary context for knowledge use and the ways in which epistemological and other philosophical concepts and constructs are (or are not) understood, discussed and used. Thus, the thesis generates and engages with an essentially

reflexive epistemology, recognising the symbiosis between theory and practice and the the central importance of the role of language therein, the issue of which is particularly apposite in this inquiry because much of the debate around professional and other forms of knowledge is predicated upon assumptions regarding how the world is represented and subsequently described. Simply put – those approaches that sit within the positivist/realist tradition see language as a simple 'correspondence' tool between what is and how it is described/represented. The statement is simply a description of the (known) fact. Conversely, those who lean towards the interpretivist/constructivist paradigm would see language itself as a construction, sufficiently fluid to represent the same thing in many different ways dependent on a number of factors, not the least of which might be the interests of those doing the describing. In this, the role of power and dominant ideologies have the potential for great potency – things may not actually be as we may (like to) think they are, and given that social work practice is focused on engagement with those for whom interpretation and definition might mean the difference between oppression and empowerment, language has a central role to play. These issues are central to our appreciation of the nature of ontology and the underlying epistemologies used as the basis for description, explanation and understanding (Bunge 1974, 1974a, 1977). As such, consideration needs to be given to the role of both realist and constructivist approaches to knowledge and the mediating role of language in order to provide a broad context for the discussions that follow.

1.1 Representing the World?

It is therefore not surprising that humankind's quest to understand and take control of the environment so as to minimise risk and danger and maximise the chances of survival is able to provide us with a strong rationale for the utility of inquiry and the application of findings. The Ancient Greeks are perhaps renowned for their endeavours in this regard, and much theorising and philosophising regarding the best way to achieve this has taken place. As a result, systematic inquiry of various sorts in various domains has grown and evolved, allowing us to achieve great things. These achievements rest on the acquisition of knowledge, and our present term for the study of this, *epistemology* – *episteme* [knowledge] and *logos* [theory]

refers to a fundamental branch of philosophy that investigates the possibility, origins, limits, structures, methods and validity [truth] of our knowledge and the way it is represented to us and by us.

Epistemology therefore embraces a number of issues: the very possibility of knowledge itself – what *is it*? (Gettier 1963), what are the limits of knowledge – are some things unknowable? Where does knowledge come from – the senses, experience or both? Is it *a priori* and therefore innate? How best to obtain knowledge – by deduction, induction, abduction or intuition? And what is the relationship, if any, between the subjective and objective components of knowledge, and what forms of truth exist – is it intrinsic? Is truth that which *corresponds* to reality, or is it that which is *coherent* with our understanding of reality or is there some consensual position to be achieved? (Blackburn 2006). These issues have evolved and we now have a much more differentiated view of knowledge as taking distinct forms: self-knowledge; common sense or tacit knowledge; everyday knowledge; wisdom and scientific knowledge. In relation to the latter, scientific knowledge is invariably (and narrowly) categorised as comprising *deductive* and *inductive* knowledge forms.

All of these considerations relate to *ontology* – the theory of being and the nature of reality itself. Any knowledge that we have is knowledge of or about reality; thus, the ontological dimension is that which is explored and articulated via the processes of inquiry. Inquiry into both the natural and the social worlds has evolved into distinct approaches with distinct methodologies and underpinning ideologies. To some extent this divergence has been necessary and wholly appropriate. The exploration of the physical world has necessitated strict observations, measurement, calculation and description in order that predictions can be made, and on the basis of these, inferences regarding causality inferred with (often) an impressive degree of precision. These developments, ideological or paradigmatic subtleties aside, have led to huge benefits. Science (in the positivistic tradition) has done us proud and the benefits of the application of the ‘scientific method’ and its deductive logic are to be celebrated. The nature of the natural and physical world is better

understood than ever before and all of us benefit from this. In that regard, criticism of the positivistic, hypothetico-deductive approach (Bayes and Price 1763; Popper 1935/2002a; Hempel 1945a: 1945b; Popper 1963/2002b; Godfrey-Smith 2003) need to be tempered and located correctly in relation to its stated purpose and context. The 'science wars' to which reference has already been alluded arose as it became more and more apparent that the methodologies of the natural and physical sciences were less and less applicable to the study of the *social* world. Thus, whilst criticisms are justified in this context, they should in no way be taken to imply a disregard of the importance of these approaches in other respects – hence criticism needs to be situated in the relevant socio-historical context (see Nietzsche 1913/1996).

Here of course we do need to recognise and consider the above comments in light of the means by which such processes and methods of inquiry are themselves represented and how the findings, and ergo the substantive nature of reality itself are themselves *articulated* and how they are then *represented* (i.e: as knowledge of and about the world). One of the reasons for such an inquiry as this relates to the confusion that appears to exist regarding what knowledge is, the forms it takes and how we use it. The manner in which the terrain is described is replete with differing interpretations, definitions and applications, many of which are used both loosely *and* interchangeably. As a result, there is considerable confusion regarding the terms of reference for philosophical analysis (Adler 1965, 1993) such that it is at times difficult to steer a clear path through the terminology – a clear example (if not an exemplar) of the role and (dys)function of language and its descriptive and explanatory use. Thus, *what* inquiry reveals is, depending upon your view, either a direct representation of the world – 'the word *represents* the world', or an interpretation thereof – 'the word *reflects* the world'. Thus, some form of explication is required that provides both a *conceptual* and a *contextual* basis for an appreciation of the role and function of language within epistemology such that it can serve as a reference point for all future comment regarding language within this inquiry: that of the (essentially) dichotomous relationship between *realism* and *constructionism* as broad categorisations relating to how the world is (re)presented to us.

Realism[1], in its 'strong' version, generally posits a metaphysical view that the world exists independently of our minds – ontology is mind-independent. Semantically, *scientific* realism is committed to a literal interpretation of scientific claims about the world and that such descriptions refer to the world *as it is* and that these *correspond* with what actually is and what actually exists, whether we can actually see them or not – the doctrine applies itself to unobservable entities too e.g: electrons; gravity and relies upon inference to the best explanation (Lipton 2004, Laudan 1984). It is in this degree of correspondence that the predictive claims of science exist. Epistemologically, realism would endorse the literal interpretation of scientific claims and argue that these constitute our knowledge of the world. There is therefore only one reality according to (scientific) realism – an objective one (Harker 2010; Psillos 2009; Leeds 2007; Lewens 2005). Conversely, constructionism, as a form of cognitive relativism, argues (in its 'strong' form) that there are in fact many versions of reality – *'The way things appear to me, in that way they exist for me: and the way things appear to you, in that way they exist for you.'* (Protagoras quoted by Plato – *Theaetetus 152a* (1987)). As a doctrine however, strict relativism has a number of inconsistencies, not the least of which is that it cannot deny the truth of its own contradiction – it cannot deny that anything is not true (or false). This self-referential inconsistency leaves it open to criticism, particularly if applied vociferously and applied in a doctrinaire fashion, leading ultimately to absolute scepticism (Grayling 2009; Lange 2008; Hume 1748/2008) if taken to extremes. These of course would (as depicted here) represent 'strong' versions; more moderate and pluralistic approaches exist where a more functional relationship between nature and culture is envisioned. Nonetheless, the debate regarding how reality is represented ultimately rests on some form of 'construction', with language playing an important role; the issue then is the extent to which and the way in which

[1]The terms 'realism' and 'relativism' like many others within philosophy, have various forms or types, best represented as sitting along a continuum from 'weak' to 'strong'. It is not the intention here to delinetate each of these in detail, as this would necessitate (and perhaps constitute) a critique of such positions. Rather, the intention is simply to illustrate the differences between them and other broad positions (in this case, constructivist/constructionist approaches as an example of relativism) for the purposes of locating these in broad context. See Shaffer (2012); Bhaskar (2008); Brock and Mares (2007); Smart (1963) for reviews and critiques of realism and its variants and Hales (2011), Phillps (2011) and Recanati (2007) on relativism.

linguistic constructs are able to *accurately* represent the world – both natural and social, and the extent to which each impinges (or not) on the other (Roversi 2015).

However, in discussions regarding relativist notions of ontology, we first need to distinguish between *constructivism* and *constructionism* in order to ensure linguistic accuracy. *Constructivism* is often used synonomously with the assertion that the perceptions, experiences and views of an *individual* are best understood as *'an elaboration or construction based on hypothesized cognitive and affective operations'* (Reber 1985 p151 in Watts and Stenner 2012 p41). Thus, we do not passively see the world as it is; rather, we are selective in what we *perceive* and attend to. This notion of a 'percepual set' has its roots in Piagetian psychology under the rubric of 'schematas' (Piaget 1953) and also finds traction in Kelly's *personal construct theory* (Kelly 1955) as well as Vygotskyian accounts of the *personal* meaning-making processes within human cognition (Vygotsky 1978; Wertsch 1985) and the broader sociological issues implicit within this from the perspective of analysis and interpretation (Daniels 2012). Thus, although such accounts are essentially individualistic, they assist us in understanding how, at an individual level, the world is interpreted and how such interpretation may be altered in light of experience and/or receipt of new/different information, which may arise from the confluence of these and broader *collective* influences. *Constructionism* is the more collectively-oriented viewpoint on the constructionist theme, and is generally understood to refer to the *social* or *sociological* aspects of these meaning-making operations and processes. In this way, the focus moves from the centrality of *personal* meaning-making to the role of shared/communal/collective viewpoints and other extant *discourses* (Foucault 1974), or, as Dewey (1931/1985) referred to them, *'social facts'* (pre-dating Berger and Luckmann's (1966) reference by some three decades) and their influence on perception and, ultimately, action.

The social constructionist view is well represented by writers such as Berger and Luckmann (1966), Bloor (1976/1991); Latour and Woolgar (1979/1986); Collins (1985/1992); Latour (1992, 1999); Hacking (2000); Searle (1995: 2010); Elder-Vass (2012); Burr (2015); Gergen (2015) and others, all of whom consider that *social*

reality is negotiated and mediated by reference to, amongst other things, language (Dewey 1929a; Wittgenstein 1953) and the semiotic function of signs within this (Saussure 1916/1983; Hodge and Kress 1988; Chandler 2007). Searle (op cit) is perhaps one of the most vocal exponents of the role of language in the creation of social ontology. He would argue that social facts are ontologically subjective but epistemologically objective and that the existence and use of language is constitutive of such 'facts' (Searle 1998, 2006, 2008). Using the (now common) example of money, Searle differentiates between 'brute' facts and 'social' facts; the former (in this example) would refer to paper, ink and the process of making paper money or nowadays, magnetic and digital traces representing financial transactions; the 'social' fact of money operates symbolically and becomes 'money' because we call it this and use it in certain ways, imbuing it with certain characteristics, shared between us all, based on the constitutive (and collective) rule that "*X counts as Y in C*". In contrast, a mountain is a mountain – it is a 'brute' fact, having no existence other than as a mountain – it has no *generally accepted* symbolic function in the way that money has. Similarly, there are states that are pre-linguistic – they are unaffected in terms of their impact or felt presence irrespective of what they might be called – thirst, hunger, surprise, anxiety, anger – all generate similar (visceral) responses and so are language-independent. In contrast, the law, money, rights, property, democracy, are all language-dependent for their very existence. Searle insists that:

> *"…it could not be the case, as some have maintained, that all facts are institutional [i.e., social] facts; that there are no brute facts, because the structure of institutional facts reveals that they are logically dependent on brute facts. To suppose that all facts are institutional [i.e., social] would produce an infinite regress or circularity in the account of institutional facts. In order that some facts are institutional, there must be other facts that are brute [i.e., physical, biological, natural]. This is the consequence of the logical structure of institutional facts."* (Searle 1995 p62.)

Based on the above, it could be surmised that the intellectual foundations of social constructionism span phenomenology, hermeneutics, poststructuralism, symbolic

interactionism and strands of literary criticism and social psychology. Hacking (2000) would hold the (moderate) view that there need not be a conflict between regarding something as being 'socially constructed' or as being 'real'. Similarly, and importantly, Blumer (1969) reminds us that a sense of perspective regarding the social constructionist view is important, because a view that holds that knowledge (or any aspect of the social world) is socially constructed:

> "*…does not shift 'reality', as so many conclude, from the empirical world to the realm of imagery and conception…[The] empirical world can 'talk back' to our picture of it or assertions about it – talk back in the sense of challenging and resisting, or not bending to, our images or conceptions of it. This resistance gives the empirical world an obdurate character that is the mark of reality."* (p22).

The example of gender is perhaps illustrative – there are 'real' and objective differences between genders (the biological basis), but societal perceptions of what gender *means* in terms of role, status and function may be socially constructed and in turn affect how people interact in relation to gender differences and how social structures may come to treat males/females/transgender in different ways that themselves bear no resemblance to biological functionalism. It is these latter constructions that essentially *infer* that biology equates with difference, above and beyond the normative biological differences. And it is these inferences that can be conflated and regarded as being equivalent to what Searle (1995) would see as a 'brute fact' rather than a social (or an 'institutional') fact. This is the essence of the social constructionist thesis: that 'common knowledge', once reinforced and typified, takes on the staus of a social fact that may then become articulated and acted upon *as if it were something else – a 'brute' or objective fact* independent of its social context and origins. According to this view, human social existence and activity gradually coheres, via repetition and then habit, into social institutions/facts which are then legitimised by language conventions, mythology, religion and philosophy, maintained by therapies and reinforced through socialization until they are subjectively internalised by upbringing and education to become an 'objective' part of the identity of each of us. Thus, the accretion of interactions can eventually

serve to legitimise the perception of reality as an *independent* one, even though the phenomena under question is very much a *socially constructed* entity – or was. Socially-constructed phenomena then become 'real' in the objective sense.

The above notwithstanding, social constructionism does accept that there is an objective reality. It is however concerned with *how* knowledge is constructed and understood and the role this plays in how we come to understand the world, rather than whether or not reality actually exists unless we 'create' it through our use of language. It has therefore an epistemological, and not necessarily a strict ontological perspective; criticisms and misunderstanding arise when this central fact is mis-or over-interpreted. This is most evident in the debates and criticisms surrounding the 'strong' versions of realism and relativism referred to above. Social constructionism places great emphasis on everyday interactions between people and how they use language to construct their reality. As a result, there is an appreciation that language and the meanings derived from and through it are best seen as being *contextual* such that:

> *'…meanings are as stable as the background consensus that sustains them. So, given the constant reconstruction and re-articulation of the consensus of action of language users, the meanings emerging from this consensus always point to new contexts, that is, they are "self-moving to new cases." On this contextualist view, meanings are durable but they do not remain the same; they are in a constant process of transformation, no matter how minute and unnoticeable these transformations may be. Absolute sameness is impossible and unnecessary for the continuity of semantic contents. The contexts of use in which a term finds application can be expanded and diversified; or they can be narrowed down and homogenized; and, accordingly, meaning can grow or shrink, become enriched or impoverished. But what a meaning cannot do is to become absolutely static, frozen in time.'* (Medina 2004 p358).

Assigning such a contextual role to and for language allows us to avoid the descent into linguistic scepticism (Unger 1975; Kempson 1975). This is possible by

reference to the principle of *underdetermination* as a counter against *radical indeterminacy* (Lauden 1990; Lauden and Leplin 1991). Underdetermination, in terms of scientific theory justification and, ergo, the development of knowledge as well as in relation to the philosophy of language

> '*is simply one aspect of the limited and fallible nature of our epistemic practices, but it doesn't constitute an insurmountable obstacle to scientific researchor to the various investigative activities of ordinary life, as the skeptic would have us believe. Underdetermination can only be inflated into radical indeterminacy if we buy in to the mistaken assumption that what is logically possible and what is reasonable are coextensive.'* (Medina *op cit* p342).

Semantic scepticism is what realists see as being the outcome of a constructivist approach to language and meaning-making – it becomes indeterminate. This though is based on the assumption that meaning is fixed, and that there is some form of semantic foundationalism in operation. However, more moderate but oppositional positions would argue that semantic anti-foundationalism *does not equate with indeterminancy of meaning.* Medina (op cit p343) refers to "contextual determinacy" which '*accepts and integrates the thesis of underdetermination whilst rejecting the thesis of indeterminacy'* (Ibid). Thus, meanings are not absolute or foundational, but neither are they indeterminate (sceptical) because of this. Rather, the *context* within which language is used and meaning is intended provides a transitory and relativised form of determinacy that matches the *purpose* of the communicative exchange that is consistent with the general background conditions, generally accepted practices and the knowledge and perspective(s) of the participant(s).

We thus have an essentially *non-foundationalist* view of meaning that draws from both Dewey (1929a) and Wittgenstein (1953) that offers a constraining role on interpretation by contextual factors. Wittgenstein refers to our linguistic practices as being supported by regularities in the environment and that these provide a structure within which language is used *effectively*. These regularities are not fixed nor foundational but stress the action-oriented relationship between words and

deeds. If these 'regularities' in our linguistic environment were to change – then our linguistic practices would change. Wittgenstein refers to these as representing a 'language-game' (Wittgenstein *Ibid* §7). In a similar vein, Dewey refers to language use as a form of agency, with speakers being regarded as agents. Language therefore is seen as a form of action (Dewey 1929a p137; p139). This provides the rationale for the claim that whilst all statements and knowledge claims may well have a right to enter the public discourse with the possibility of representing a viable alternative (the principle of nonuniqueness), not all have legitimacy and credibility – simply put – some may be silly and therefore not gain any traction whatsoever (the principle of cognitive egalitarianism) (Laudan 1990), whereas those that conform to the 'rules' – or the context of use, will at least be considered relevant, even though they may not ultimately be accepted. Both Wittgenstein and Dewey argue that '*the meaning of words and sentences becomes contextually determinate through the tacit agreement in action of the participants in communicative practices*.' (Medina *op cit* p345 – emphasis in original) rather than being derived from the mechanically enumerable features of the words themselves (Fish 1989 p4). These features of context and their normative use therefore provide a 'barrier' behind which linguistic and other forms of scepticism must sit and offer a counter (if not reassurance) to the view of the realists (eg: Langdon 1975; Unger 1975) that social constructivist perspectives serve only to fuel the worst features of relativism by opening up the floodgates for radical indeterminacy and a chaotic scepticism:

> *'…all meaning is ultimately rooted in the consensus of action of our practices: meanings become contextually determinate through the practical consensus achieved by participants in situated linguistic interactions. Radical indeterminacy arises when we detach language from its techniques of use and the background agreement in action of language users. But, on this view, indeterminacy is not a final and inescapable feature of language; it is the artifact of philosophical theories that lose sight of the contextual character of language. There is no radical indeterminacy when the use of a term is contextualized and considered against the background of the tacit agreement in action of its users.'* (Medina *op cit* p 364).

Thus, in general terms, our usage of terms such as ‘research’ equates with an acknowledgement of the existence of a systematic approach to inquiry, embracing various rational and procedural principles. Those principles regulating the search for and acquisition of knowledge about various forms of reality proceed through a series of accessible and justifiable steps. These steps we refer to as ‘methodology’ [German form = *Wissenschaftstheorie*] and in English-speaking communities is referred to as the ‘theory of science’ or, as a result of the influence of positivism, and ergo somewhat reductively, as the ‘scientific method’. However, as we shall see in chapter two, these issues have caused significant debate in relation to *how* we come to know the world and as a result, discussion and debate regarding what methodology or approach to follow has gone on for a long time, and is still for some, unresolved. However, it is my hope that within this thesis, I can establish a credible case for the utilisation of a pluralistic methodology that not only allows for the adoption of a range of methods in the research process, but that also provides a logical and proportionate philosophy within which such endeavours can be safely and usefully located, taking full account of the respective roles of ideology, power and language in shaping the different ways we come to know and understand the world around us, particularly the professional world of front-line social work.

1.2 Structure of the Thesis

Chapter two provides an overview of the current debate regarding knowledge – philosophically and epistemologically as well as that regarding knowledge of and for social work. Commentary is provided regarding the various (philosophical) definitions of knowledge and the chapter provides an account of how some of these epistemological principles have particular relevance to the *professional knowledge* debate. The chapter therefore adopts an explicitly *philosophical* attitude in its discussion of the extant professional social work literature on the topic.

Chapter three continues to expand on the philosophical elements by providing an account of the philosophy of methodology. The chapter considers the relevance of philosophical positions, paradigms of inquiry to the nature, and our appreciation of ontology, epistemology, methodology and associated methods. It focuses on the

use of a mixed-methods approach to inquiry, arguing that this is particularly relevant in this thesis. The chapter elaborates on the mixed-method paradigm and illustrates how such an approach has consonance with pragmatism, arguing that utilising a mixed-methods approach is both consistent and congruent with the broader epistemological principles extant within this paradigm. The chapter provides an account of the history of the philosophy of science to illustrate how the 'science wars' are essentially at the root of many of the difficulties today regarding professional knowledge and provides commentary on the role and function of language therein. In addition, there is an account of different forms of reasoning and these are related to the nature of this particular thesis.

Chapter four provides an account of the methods used in the study. There is discussion on factor analysis and its sub-types, including Q-methodology, which is used specifically in the empirical aspects of this thesis. Q-methodology is a less well-known approach to research generally, and certainly it is not highly visible within the domain of social work research. However, there are many examples of Q in the literature, and a range of these is presented to illustrate its breadth and utility. The chapter also provides a detailed account of the methods, procedures and process associated with the implementation of the empirical elements of the thesis, with due reference to data outputs, ethical approval and other matters, including how the constitutive aspects of language are considered in relation to Q-methodology.

Chapter five presents the results of the Q-method approach and the post-Q sort interviews along with the descriptive factor narratives produced from the factor arrays. A number of figures and tables are presented, drawn from the raw output data files contained in the appendices. Relevant and appropriate signposting is provided.

Chapter six provides a discussion of the results/findings with particular emphasis on the interpretation of the descriptive narrative findings, which are the product of

the interpretation of the factor analytic data. The discussion utilises differences and similarities of opinion from within the data as a starting point for a discussion of the meanings inherent within the data, making creative use of a unique nomenclature. These interpretations are discussed within the broad context of contemporary social work practice with children and adults with due reference being had to current and relevant literature in an attempt to explain the findings in a meaningful way that coheres with contemporary practice. The discussion is focused on the knowledge processes referred to in chapter two: knowledge definition, production (or creation), transfer, use, development and dissemination and the emergent (and interpretative themes) are aligned to these in a functional way. Each of these thematic elements can be seen to have relevance to the experiences of front-line practitioners.

Chapter seven discusses the conclusions from the study and reiterates the case for the development of a ‘new’ and functional pragmatic epistemology for the profession of social work. A proposed ‘model’ is articulated and its core features discussed. These features are described and their practical relevance to social work highlighted. There is an emphasis on the functionality of the model, both in terms of its ability to address the many and varied complexities surrounding contemporary professional (social work) knowledge and also in terms of its capacity to function as a critical framework to evaluate knowledge processes. The chapter (and the thesis) concludes by making reference to some of the implications for individuals, for organisations and for practice, before highlighting some of the limitations of the study as well as some of its innovations.

Chapter 2. Background and Literature Review

2.0 Introduction: The Scope of the Inquiry

In this thesis I intend to outline the case for an exploration and analysis regarding the broad issue of knowledge *of* and *for* social work and the case for the development of a new pragmatic epistemology for the profession. For many years now the status of social work *as a profession* has been the subject of some debate (Rogowski 2010) based largely upon what I see as *assumptions* concerning perceived frailties in its epistemology. More specifically, because one of the traits of a 'true' profession is seen by some to be the presence or *possession* of a clear and discernible knowledge base, social work apparently 'fails' this test because it appears to lack this particular trait. Such claims and assumptions have taken on a diachronic status and are themselves I believe based on erroneous ('foundational') assumptions that at best misrepresent and/or misunderstand, and at worst ignore, the essence of epistemic belief and practice and the contemporary and changing nature of social work and those practices associated with it.

2.1 The State of the Art?

It was Flexner (1915/2001) who can perhaps be 'credited' with damaging social work's reputation as a profession because of his claim that it did not/could not evidence a clear and credible knowledge base, citing medicine in particular as being the 'standard bearer' for credibility, thereby configuring it as social work's nemesis (Gilgun and Adams 2002). This view is still espoused by some in the contemporary literature, who suggest that "*Social work tends to be an incoherent set of theories and techniques without a systematic structure*" (Göppner & Hämäläinen 2007 p280) although their argument in favour of the development of a scientific basis for social work notes that *"[…] in terms of theories and knowledge [it] leads to unsystematic pluralism of mutually exclusive models, and in the final instance to dogmatism.*" (p282). Largely as a result of such comments and the writings of Etzioni (1969) for example, social work (and teaching and nursing) has spent the last few decades trying to justify its existence, not just in terms of professional identity and

epistemological status, but also in terms of its efficacy within a post-modern new-world order where conceptions of welfare within democratic societies are increasingly open to revisionist ideas and policies (Leonard 1997; Rodger 2000) and where 'bad press' continues to vilify it (Reder, Duncan and Gray 1993; Reder and Duncan 1999: 2004; Valentine 1994; Ayre 2001; Hammond 2001; O'Brien, Hammond and McKinnon 2003; Rogowski 2010; Brandon *et al* 2012; Butler and Drakeford 2012). There are however those who would disagree with such views and actively support a claim for social work to be seen as a profession as much as any other. Reamer, in an influential piece states *"From its roots in the charity organisation society and settlement house movements, social work has evolved into a full-fledged profession with a distinctive value base, body of knowledge, and method of training*." (Reamer 1994 p2 cited in Payne 2001 p135).

There are then clear divisions within the wider academic community *as well as within social work itself* regarding the status of social work as a profession, but this is not the only issue relating to knowledge and social work, although this does present itself as the *prima facie* reason for the disputes. The appellation 'profession' may well be something to aspire to, but when all is said and done, social work *as an activity* is something that affects people's lives on a daily basis, so what to use to inform those activities is a germane question, and one that requires an answer of some description. Thus we move into the arena concerning the most appropriate type(s) of knowledge for social work, the best way to generate and disseminate knowledge and the most effective way of applying knowledge in practice. These debates and the differences they exemplify have existed for many years and have centred on issues of approach (positivism or interpretivism), methodology (quantitative or qualitative), method (for example, Random Controlled Trials or interviews) and application (for example, intervention manuals or situation-specific) amongst other issues and take contemporary shape in what we might refer to as the 'evidence-based practice'/'what works?' debate (Sackett *et al* 1996; Macdonald and Sheldon 1998). I would contend that these (somewhat circular) arguments have at their core fundamental issues appertaining to the philosophy of science and epistemology, and it will therefore be necessary to consider these as many of the arguments referred to in relation to knowledge of and for social work are but a

subset of those wider, philosophical issues (Boyd, Gaspar and Trout 1991; Benton and Craib 2011).

Given these factors and the apparent longevity of this particular debate, it is entirely appropriate and necessary to locate the discussion and analysis of professional knowledge within a clearly defined and articulated framework that refers to basic principles as well as broader processes and ideologies. Thus, we need to be clear that any activity like social work, or medicine for that matter, does in fact require adherence to basic epistemic principles for any sense of credibility. In this paper therefore I intend to address a number of 'claims' regarding underlying structures, types and forms of professional knowledge that I believe cannot be sustained once we understand the nature of epistemology, epistemic practice and, of particular relevance to the professions (however defined) and this particular thesis, the importance of *pragmatism* in relation to knowledge generally and *professional knowledge* in particular (Peirce 1905; James 1907; Schön 1983; Almeder 2007). I will show how this approach can *clarify* the current debate and give substance to the issue of knowledge of and for professional practice, and professional social work practice in particular.

2.2 A Philosophical Approach to Empirical Inquiry

I shall begin by exploring the nature of knowledge itself and what epistemology (Pritchard 2009; Audi 2011) can offer to the debate concerning social work knowledge: what it is thought to be and how it is created/produced, transferred into practice, used, developed and disseminated with particular emphasis on these processes as they might relate to social work practitioners (although these matters relate to *any* professional). What 'counts' as knowledge from an epistemological perspective must be taken as being fundamental to the whole discussion regarding knowledge generally, and that of and for social work in particular. Insofar as epistemology is concerned and its traditional view regarding knowledge as being a proposition that functions as a *belief* deemed to be *true* and *justified,* we need to think in terms of what I will refer to as its two epochs: pre- and post-*Gettier* (Ayer 1963; Chisholm 1966). This refers to the impact of Gettier's short paper that asked

the (deceptively simple) question “Is justified true belief (JTB) knowledge?” (Gettier 1963). This was a challenge to the extant and ‘classic’ account of what could (‘legitimately’) be regarded as knowledge. Gettier problems refer to situations where a proposition, functioning as a belief thought to be true and justified, does *not* function as knowledge because it is not true, although the individual concerned is unaware of this. Such situations are commonplace in day-to-day life and professional practice, and are likely to remain so. The impact of Gettier’s claims were profound and has split epistemology into a ‘before’ and ‘after’ discipline (Hetherington 2005; Lycan 2006) because it provided a more accessible account of what knowledge might be, thereby recognising the realities of day-to-day knowledge definition and use. Gettier problems have the potential to create huge difficulties if the traditional account of knowledge is that to which we refer, as under this rubric, much everyday knowledge, and knowledge regarding practice-based situations would not be seen as knowledge. Ergo, the implications of this on and for professional activity would be significant as such activity is seen, necessarily so, as being underpinned by reference to knowledge rather than (say) just feelings or hunches. I believe that practice (and everyday life) are replete with what would be referred to as Gettier-problems under the tradional JTB model, and as such have day-to-day implications for service users. Therefore they must be acknowledged and addressed pragmatically by reference to more functional accounts and mechanisms.

The issue here, given the potential seriousness of decisions based on Gettier-type reasoning (if framed in terms of the ‘classic’ account) – that we do have beliefs (knowledge) that we are prepared to act upon that are not justified nor indeed true, and that we are unaware of this - is to ensure that, insofar as it is possible, epistemic mechanisms are available that function in such a way as to minimise the possible effects of Gettier-type situations on people’s lives. For example, where a social work practitioner believes that a child has been harmed by its parent and takes action on this basis (removal), there may be no justification for the belief under the ‘classic’ account of knowledge as its truth-value may not have been verified, and yet action is still taken. Technically, the actions of the practitioner are, under the ‘classic’ account, based on something other than knowledge, and yet this is understandable

as a response to a situation as Gettier's account is more pragmatic and accommodating to what actually happens in real life. We all operate on the basis of what we think or regard as knowledge, *ceteris paribus.* I am of the opinion that by responding to Gettier's objections regarding *JTB* pragmatically, we can accommodate them effectively, even though we cannot solve them. Gettier *problems* are only problematic in relation to the 'classic' JTB account of knowledge, which has framed the prevailing discourse regarding epistemology prior to Getter's paper. These and a number of other epistemological issues must be addressed in order to avoid the risk of the ongoing debate regarding social work and other forms of professional knowledge descending into further obfuscation, mindless repetition and unnecessary circularity.

Within the extant literature regarding knowledge and social work, there is little evidence to suggest that epistemological principles *per se* are seen as being of any real importance at a practical level, although latterly some writers have to their credit attempted to introduce some limited considerations of such matters into their writings (Le Croy, Ashford and Macht 1989; White 1997; Sheppard 1995: 1998; Gould 2004), although for the most part the focus is upon the 'correct' methodological approach and associated philosophical rationales (Reid 2001; Taylor and White 2001). In this regard I would have to voice a contrary view and assert that such principles are actually central to the *practice* of social work itself and so need to be clearly articulated and 'put to work' so to speak (Fantl and McGrath 2009).

The discussion concerning the nature of knowledge itself will be followed by commentary on how *professional knowledge* is generally and quite specifically conceptualised, acquired and utilised (Olsson and Ljunghill 1997) by providing a representative overview of the extant literature in this area. This account will draw on material from social work and a range of other disciplines, mostly related, but some very clearly unrelated to social work and its particular subject matter - people (Hoffmann, Probst and Christinck 2007; Schneider *et al* 2009; Baars 2010), although what is evident in relation to such cross-disciplinary accounts of

knowledge processes (definition, production, transfer, use, development and dissemination) is the role and importance of human agency and action (Fuller 2015). Necessarily, this will be followed by an account of the current debate concerning the nature of evidence or, from a more philosophical standpoint, *justification* (Wittgenstein 1969) in relation to what constitutes knowledge of and for social work. Within this I shall attempt to delimit the claim that it is the status of medicine and other 'true' professions to which social work should aspire in relation to its particular epistemology, largely because of the claim that (bio-) medicine (Saks 2003) is more 'scientific' (Ackerknecht 1955; Berliner 1984; Rosenberg and Donald 1995; Lane 2001; Porter 2003; Timmermans and Kolker 2004) even though there are detractors from this position (Vogel and Rosenberg 1979; Warner and Tighe 2001; Goldenberg 2009).

The relevance of the current 'trend' within the human services towards evidence-based practice (EBP) (Sackett *et al* 1996; Macdonald and Sheldon 1998) will also be considered because it is seen by some to provide a vocabulary where *'the language of goals, objectives, outcomes and effectiveness challenges the reliance on sentimentality, opinion-based practice, intuition or lay-knowledge.'* (Shaw 1992: 42). It could be argued that this trend is but one recent manifestation of the continuation of what Hughes and Sharrock (1997) refer to as the 'positivist project' whereby approaches to the creation of knowledge via such means and the results are taken to have greater validity than knowledge produced via other means (Smith 1987; Goldenberg 2009). Some authors would argue that this is in fact the essential role of science in relation to social work and all other professions: *"With its claims to validity, science supplies assured factual and explanatory knowledge for the substantiation or guidance of professional action."* (Gredig and Sommerfeld 2008 p292), a view reflecting one expressed earlier by Reid (2001), an avowed positivist who does however make the valid claim (and concession) that the perceived 'encroachment' of such methodological approaches may in fact be as much to do with the wider influences of government funding for intervention programmes and the need for agencies to justify their successes as it might be to do with the personal or professional preferences of academics.

The issues regarding the structure of knowledge are mirrored in their urgency by those regarding the *type* of knowledge preferred in relation to social work practice along with issues appertaining to its *application* (Trevillion 1998; Payne 2001; Reid 2001). Some of these manifest as a counter against 'pragmatic' uses of theory (knowledge) where this term is used in a very generalised way with no specificity attached to it concerning the application of Peirce's *pragmatic principle* (Almeder 2007 p172). Trevillion (1998) cited in Göppner and Hämäläinen (2007) comments that an essentially 'competency-based' approach to practice has resulted in a situation where *'Theory becomes anything which apparently works'* (p277), seemingly missing the fact that this is a partially correct interpretation of the pragmatic principle itself, although referred to somewhat scathingly and in a somewhat decontextualised fashion that seems to miss the importance of issues appertaining to meaning-making and the context-specificity of theoretical applications (Healy 2005).

This perhaps illustrates the manner in which a range and variety of philosophical concepts are often used quite 'loosely' and somewhat randomly within the debate over social work and knowledge, with the result that imprecision leads to an inevitable sense of confusion about the very subject matter itself. This is perhaps well illustrated by White (1997) who states that *'Social Work is often a pragmatic and reactive activity; as such it has not traditionally concerned itself with philosophy'* (p40). Thus, the relevance of philosophical pragmatism (or to some, American Pragmatism) will be considered in the context of its role and function as a viable epistemological mechanism in relation to social work knowledge, both in terms of its *explanatory* power regarding the processes of knowledge *definition* and *creation* (Goldenstein 2011) as well as its pragmatic function in relation to knowledge *use, dissemination* and *development* (Goldenberg 2009). Almeder (2007) not only provides a clear and succinct definition of the pragmatic principle *[PP]* but also accounts for the presence of *tacit* knowledge under this principle when he states that *"…[induction] generally tends also to produce beliefs that allow us to predict precisely our sensory experiences and thereby permits the production of other*

beliefs whose adoption and applications allow us to navigate more successfully under the principle of homeostasis." [p173]. Aligned to this is the recognition that what constitutes knowledge may well be a relative thing and therefore some consideration of the nature of *social constructionism* will be necessary (Berger 1972; Berger and Luckmann 1966; Searle 1995; Hacking 2000).

In relation to the empirical aspects of this thesis, my aim is to consider how social work professionals construct, perceive, source and use knowledge, in order to consider how using pragmatism as a 'filter', with and through which knowledge construction *per se* could be made intelligible (irrespective of the particular area of professional knowledge, for example, medicine, law, nursing, engineering, physics, agriculture, teaching, surveying, accountancy), applicable, relevant and functional. More specifically, I shall argue that pragmatism can be seen to be an integral component not only of epistemic activity in relation to professional knowledge development and use, but also in terms of knowledge application and *action* from the perspective of the private individual *in situ*. Here I refer to how an individuals 'knowledge' of their (metaphysical) situation can be illustrated by their particular response in the form of attachment strategies (Cassidy and Shaver 2008; Crittenden 2008). These are a manifestation of knowledge 'structures' and perhaps illustrate what Argyris and Schön refer to as *knowledge in action* (Argyris and Schön 1974). This has the potential of offering a wider consideration of how knowledge ought to be conceived of and suggests that there is in fact a range of different 'ways of knowing'.

There is however a palpable degree of irony to be noted in relation to this aspect of the thesis. Given that this whole endeavour is concerned with knowledge and how we come to know things, my own approach must evidence fidelity to the issues under consideration in relation to my general orientation, my methods and my treatment of the 'knowledge' I refer to and generate. This is very much therefore a 'live' project having some sense of methodological ethnography. If in fact we can ever come to know *anything* (Grayling 2009) I shall, through the processes of this

project, have to evidence how doubt (scepticism) is a necessary part of knowing (Peirce 1877; Menary 2003).

2.3 The Nature of Knowledge

Epistemology is driven by a number of basic but highly significant questions and is primarily concerned with evaluating claims about the way in which the world can be known to us: What *is* knowledge; what can we know (scepticism) and how do we know that we know something? In addition to this, we may ask whether that if we think we do in fact know something, how sure can we be that what we know is actually worth knowing? These fundamental epistemological questions are highly relevant to the discussions concerning professional knowledge of and for social work, so a foray into epistemology and the philosophy of science is essential in order that we are clear as to what it is we are talking about. I would contend that much of the literature regarding knowledge of and for social work tends to avoid any critical discussion about epistemology and important epistemic principles and mechanisms with the result that there is actually very little agreement or clarity about the actual topic under discussion. Rather, writers tend to get into discussions about what, in their opinion, is the best *type* of knowledge for social work and what its content should be without offering a clear, logical account of the mechanisms and processes underpinning its creation and use *per se*, before applying these to an analysis or account of social work (or any other profession) and its professed claims to knowledge.

There is an assumption that social work, like most professions, requires to have some form of palpable corpus of extant knowledge to which people can refer to at will. This need for a knowledge *base* appears as a fairly robust feature within this general debate, generated perhaps by an implicit acceptance of 'trait' theories regarding the nature of the professions and because of social work's apparent 'desperation' (Gammack 1982) and 'yearnings' (Howe 1980) for credibility as a 'full' profession, a status to be conferred upon it once this knowledge base had passed some kind of test. Thus, the debate within social work can be seen to have historically had a strong focus on issues of *content* with less concern regarding its

structure and *form* or the means by which it was generated and validated. *It is assumed that we know what knowing is* and knowledge is generally treated as a taken-for-granted entity. This is a fundamental error that has, I believe, led to obfuscation and confusion within the professional literature and the profession(s) as a whole, and it is therefore necessary to explicate the range of basic epistemological concepts and epistemic mechanisms in order to appreciate and understand the *structure* of knowledge as this will provide a benchmark for the discussions to follow.

2.4 The Structure and Principles of Knowledge

Broadly speaking, 'classic' accounts of knowledge tend to see it as being of two broad forms: *knowing that* [*KT*] and *knowing how* [*KH*]. The former relates to what might be referred to as *propositional* knowledge: a collection of 'facts' about something. Generally it is taken that such knowledge is based on propositions ['facts'] about the world or some entity that are regarded as being *true* and *justified* i.e. there is some evidence to support the belief, and they usually take the form of 'knowledge that *p*', where *p* is an indicative sentence (for example 'Elephants do not fly') (Zagzebski 1999; Cole 2002; Pritchard 2009; Martin 2010; Audi 2011). The latter form of knowledge is variously described as *practice* knowledge*, tacit* knowledge or *craft* knowledge, knowing both what to do and how to do it, and is therefore very much about knowledge *in action* or *skill* (Ryle 1949, 1971; Schön 1983). These *general* statements are very much that: general, because as we shall see, what is taken to be a *fact* or the *truth* for example is a rather complex matter and one not just of philosophical concern, but one having huge practical consequences for social work and other professions.

As a means of facilitating a more rigorous analysis of knowledge in all its forms, it is important that we recognise the presence of a rather condensed and *composite* view of professional knowledge. Such a view does not allow any opportunity for a detailed consideration of the various elements of knowledge, and here I shall seek to explore some of its components in more detail.

In considering the *structure* of knowledge we must make reference to a number of basic *epistemic principles* including belief, truth, justification (internal and external), sensitivity, safety (Pritchard 2009) and underlying *mechanisms* including Gettier counter-examples (Gettier 1963), epistemic norms and epistemic performance. If the underlying structures of knowledge and its creation are not considered then, *a priori* so to speak, social work cannot defend its knowledge claims because it cannot say whether or not its knowledge *is* knowledge, or whether it is something else entirely. The significance and relevance of Gettier-type problems appears never to have been raised as an issue within the social work literature, so I shall address this oversight and provide an explanation of their general form and an explication of their relevance to social work knowledge, highlighting what I see to be their *day-to-day impact* within social work practice.

By effectively ignoring Gettier's assertions, all professionals are theoretically operating 'in the dark' with regards to their knowledge claims, although this does not imply that an explicit and active awareness of such matters is required at a practical level. Rather, these factors need to be an integral part of reflective practice *per se*. I shall argue therefore that not only are such Gettier-type problems commonplace and significant contributors to practice decisions that are in fact *based on false knowledge* (using the 'classic' account of knowledge referred to above), but that Gettier's objections are in fact entirely understandable if we account for them by reference to Peirce's pragmatic principle (Peirce 1877; 1905) and take full account of Hume's objections to induction (Hume 1748/2008) and Hempel's contemporary reframing of this (Hempel 1965), thereby reviewing our 'classic' conception of knowledge which, I will argue, cannot be sustained in its current form. By approaching the topic of knowledge in such a fashion and addressing these problems by reference to pragmatism, it is I believe entirely possible to reframe the whole landscape of professional knowledge in a manner that is epistemologically, professionally and ethically credible.

Whether we can be said to have knowledge relates to the issue of *justification*; if knowledge is justified true belief, we need to understand how this JTB arises. This requires that we understand the processes of external and internal justification attributions. Such attributions are the essential processes via which knowledge can be seen as being valid or not. An *external justification attribution* addresses whether the evidence for a particular claim [belief] when objectively viewed, supports the claim or not. *Internal justification attributions* are those that relate to the agent's own belief in a certain theory or proposition. Audi (2003) writes *"I distinguish between personal justification – that of a person's belief that p – from impersonal justification – that of the proposition that p, or of 'the belief that p' in the abstract"* (p18 in Koons 2009 p191), whereas Goldman (1988 in Koons 2009 p274) refers to these types of justification as being 'strong' (objective or impersonal) or 'weak' (subjective or personal). External justifications regarding knowledge claims can be seen to have parallels to the role currently played by EBP, so in this regard the EBP 'movement' has a clear role in the area of the *justification of knowledge claims*, but one not without its limitations, particularly in relation to how EBP views such claims *hierarchically* (Goldenberg 2009; Skaerbaek 2010).

Internal justification relates to the evaluation by the particular individual as to whether or not their knowledge is valid i.e. is based on a rational belief. Such evaluation depends on a number of things including the particular frame of reference of the individual, individual circumstances and, importantly, what can reasonably be expected of that person i.e. what is regarded as normative for a social worker, an engineer etc, and has taken on a new guise as 'reflection' (Schön 1983). This frame of reference is aligned to the notion of the particular *epistemic community* that one inhabits (Kakavelakis 2010), whereas the issue of normativity concerning expectations refers to one's *epistemic performance*. These issues are inextricably bound to the manifestation of Gettier-type problems referred to earlier.

With regards to subjective justifications, the notion of *underpinning beliefs* has an important role to play. Wittgenstein (1969) in 'On Certainty' [OC] claims that we have a number of 'background' beliefs that are so fundamental that we are unable

to question them. These essentially provide us with a point of reference to a series of propositions about the world and our place in it that we must accept so that we can begin to evaluate the world and thereby function within it. For example, he states: *“I have a world picture. Is it true or false? Above all it is the substratum of all my enquiring and asserting”* (OC: para 162) and *“The questions that we raise and our doubts depend upon the fact that some propositions are exempt from doubt, are as it were like hinges upon which those turn”* (OC: para 341). Hume (1748/2008 §5.1) phrases it somewhat differently but refers to the same necessity when he says, *"…without the influence of custom we would be entirely ignorant of every matter of fact beyond what is immediately present to the memory and senses."*

This apparent ‘foundationalism’ is I believe a necessary part of the discussion concerning the types and forms of professional knowledge and represents an important aspect of the empirical element of this thesis regarding the manner in which people (agents) from different epistemic communities (professional groupings) and with different epistemological beliefs (claims to possessing knowledge) act (Karseth and Nerland 2007; Auyang 2009; Baars 2010; Kakavelakis 2010) as well as reflecting, somewhat prospectively in the hands of Hume, the emergence of the contemporary view that we all develop and use ‘schemas’ (Piaget 1953) heuristically. However, as we have seen earlier, the way in which ideas and concepts are represented through language can lead to mis-interpretation and misunderstandings. The notion of foundationalism within the philosophical canon refers to and represents a degree of fixity and infallibility regarding (in this case) our beliefs, which neither Wittgenstein, Hume, nor Dewey (1929a) for that matter, intended. They do not support a strict foundationalist doctrine; rather, they assert that in order to prevent the dissolution of all our beliefs (and therefore our actions in and upon the world) into complete scepticism and doubt, we rely on a series of background assumptions that provide us with a fallible and therefore a revisable frame of reference based on our enagement with the world and that which we already know of it. Thus, given the ‘revisability thesis’, foundationalism does not present itself as a credible epistemic position.

There are however other issues to consider. If we know anything, how do we come to know it? Is there some knowledge that we possess inherently and which therefore arises *independent* of our experiences in and of the world (*a priori* knowledge) (Wittgenstein 1969), as opposed to that knowledge we acquire *because of* our experiences (*a posteriori* knowledge)? This debate within epistemology refers to the presence or otherwise of so-called *foundational beliefs* and what role they have in underpinning broader epistemic principles. Within the realm of professional knowledge, there are I believe similar 'foundational' (but not necessarily 'fixed') beliefs and these have an important role in helping us to understand how professional knowledge is constructed and how it may (or may not) operate. Such a view regarding the existence of such 'foundational' beliefs presents itself as a refutation of scepticism (Grayling 2009), the doctrine of which posits that 'real' knowledge is in fact not possible. The issue of scepticism has been made 'famous' by Hume's argument concerning induction, whose essence is that our beliefs regarding what we have *not observed* have no justification – induction takes us beyond our observations and into the 'unknown' and as such our claims to knowledge lack full epistemic cerdibility. Hempel (1981) states this well:

> *'Many, [….] of the statements asserted by empirical science at a given time are accepted on the basis of previously established evidence sentences. Hume's sceptical doubt reflects the realisation that most of those indirectly, or inferentially, accepted assertions rest on evidence that gives them no complete, no logically conclusive support. This is of course the point of Hume's observation that even if we have examined many occurrences of A and found them all to be accompanied by B, it is quite conceivable, or logically possible, that some future occurrence of A might not be accompanied by B.'* (Hempel 1981 p389).

In this, Humean scepticism can be seen to have great destructive potential if considered *in extremis.* However:

> *'That inductive arguments are not deductive - that they are not logically guaranteed to be truth-preserving – plays an important part in Hume's argument. But the fact that the premises of a good inductive argument*

> *cannot give the same maximal guarantee to its conclusion as the premises of a deductive argument give to its conclusion should not by itself be enough to cast doubt on the cogency of inductive reasoning.'* (Lange 2008 p46 – emphasis added).

Thus, what the sceptic might consider to be 'real' knowledge lacks cogency when considered against the background of our experiences. In a somewhat veiled sense, arguments around the lack of a 'real and discernible' knowledge base for social work, and the rise of evidence-based approaches, ostensibly to counter the limitations of inductive, non-demonstrative evidence, suggests the presence of an inherent 'scepticism' being applied to the profession because of this focus on the existential aspects of people's lives and '*[T]he pervasiveness of non-demonstrative inferences in identifying and making use of knowledge in social work [that] makes practice more demanding.'* (Shaw 2012: 56) and the unwillingness (or inability) to take account of a 'lesser' standard of 'proof' regarding what might (reasonably) constitute a claim to knowledge.

The epistemic principles referred to above are obviously applicable to the issue of knowledge within any form and *context*, although as we shall see, when we speak of knowledge within particular *professional* or similarly bounded contexts (*contextualism*), we begin to see nuanced distinctions in relation to how such principles should be applied and how these particular knowledge 'fields' (Moi 2001; Houston 2002; Bourdieu 2003) or forms depend upon the application of epistemic principles in order to ensure consistency, coherency and therefore, *validity*, seen here as a form of justification. All of this of course is necessary to ensure that the issue of knowledge of and for social work continues to be in keeping with the broader epistemological project which if maintained can, I would argue, refute Flexner's (Ibid) claim and those of others that social work is not a profession because it cannot lay claim to a clear and credible knowledge base, although the notion of a knowledge 'base' is itself something I will take issue with later, taking into account some, but not all, of Payne's comments on these matters (Payne 2001).

2.5 Forms of Knowledge

Having taken account of the structural elements of knowledge, we can then think about the particular *form* of knowledge we are dealing with. By *form* I refer to whether it is *propositional knowledge* [*Knowing that*] or *practice, tacit* or *craft* knowledge [*Knowing how*]. In epistemology it is generally the case that propositional knowledge is the main object of concern, and to be sure this has provided grist for many a philosopher's mill. However, the nature of human activity appears, *a priori*, to lend itself to the need for the use of knowledge derived from many sources that would appear, on the basis of the 'classic' account of knowledge, to lack clear (in the philosophical sense) justificatory means. If this were in fact the case that all knowledge should be capable of being turned into a propositional state, then much practical activity would immediately have to cease. In practical, day-to-day activity, knowledge appears to be derived from many sources and used in many ways. The 'classic' account appears therefore to be rather too rigid to explain such commonplace activity, and as much professional activity is of this commonplace sort, so we have to account for it and apply a sufficiently robust *epistemic framework* to it so that it 'counts' as knowledge. Gettier's counter to the 'classic' account of knowledge has in my view provided an opening for the acceptance of the role, function and significance of other forms of knowing, and it may be that the epistemological debacle that has followed is somewhat misplaced (Lycan 2006) in that it tries to deal with Gettier's objections rather than dealing with what might be identified as real flaws in the 'classic' account of knowledge.

I contend that this is in fact the case and seek to evidence this by reference to a *pragmatic epistemology* (Comesaña 2008) that can effectively accommodate Gettier's objections and normalise them. Rescher (2009) provides a helpful means of addressing the Gettier conundrum when he refers to knowledge being predicated upon *presumptively justified beliefs* (*PJB*). The role of *presumption* is seen as a pragmatically justified tool that enables us act on the basis of our beliefs (and therefore upon the world) without worrying about or being affected by the regress problem as considered by Hume in his framing of the problem of induction (Hume 1748/2008; Smith 1941; Lange 2008).

In relation to Gettier problems, a *PJB* allows us to act with reasonable confidence that our belief is true (with a small 't') unless and until information to the contrary becomes available, assuming that we act in what I shall refer to as an epistemically ethical way i.e: *ceterus paribus*, we have approached the situation as openly and as honestly as we feel is possible and are open to the revisionary principles implied by epistemic fallibilism. Such an approach is borne of an acceptance of Peirce's *pragmatic principle* and recognises that the Humean principle relating to the problem of induction and the nature (and necessity?) of infinite regress are matters with which we need to engage.

Regarding *types* of knowledge, this refers to whether it is knowledge for social work, nursing, engineering etc. and therefore possessed of a particular *context* for its use, and is it therefore unique to one profession or is it *interdisciplinary*? It is now quite commonplace for discussion regarding the 'knowledge base' of a particular profession to consider whether what is known is applicable to a range of professional activity. Many recent developments in interprofessional education are predicated on the assumption that there are in fact forms of knowledge readily applicable to different professions (Barr 1998; Reynolds 2007; Reeves *et al* 2010), *content* considerations being relevant here too, not simply issues of *form*.

These issues of what a particular form and type of knowledge might 'look like' refers us to a consideration of its substantive *content*, and it is this aspect that has largely been the focus of academic debate regarding knowledge of and for social work for many years. Argument continues over the 'best' bits of knowledge, often referred to as theories, that should be included within a substantive framework that provides the basis for social work as an activity (Trevillion 1998; Reid 2001; Payne 2001; Healy 2005: 2014), although some authors have taken issue with the notion of a 'framework' because that implies rigidity and some degree of fixedness (Stevenson 1971; Howe 1980; Payne 2001). This also goes deeper than one theory being 'better' than any other because fundamental to the acceptance or otherwise of any theory is the issue of *how* that theory came to be. This insinuates something more

than an iterative process involving fundamental structural issues as referred to above: it begs questions regarding the very genesis of the theory and the underlying assumptions of the methodology utilised to produce it in the first place. The methods of the natural sciences, inherently positivistic as they are, would posit that such methods are the only way to reach the 'truth'; those of a more interpretivist bent would certainly disagree. This schism is perhaps well articulated by Hughes and Sharrock who contend that: *"The possibility of empirical knowledge needs to be secured against persistent sceptical doubt, the kind of doubt which raises arguments to the effect that we can never truly know anything about the real, external world, can never legitimately, and with full confidence, claim to know anything. To protect against this kind of scepticism it is argued that the possibility and the actuality of knowledge need to be conclusively demonstrated by identifying sound, unchallengeable means, or methods, of acquiring knowledge. If we are to be assured of our entitlement to the confidence that, for example, we often feel about our scientific knowledge, then we need to be able to demonstrate that our system of knowledge is built upon sound foundations."* (Hughes and Sharrock 1997 p4: emphasis mine.)

What is therefore to be regarded as valuable must in the first instance be epistemologically viable, but it also has to be relevant, applicable, meaningful and of some use. Thus, according to Chambers (1975), *"…scientific knowledge is a necessary but not sufficient knowledge base for deriving practice behaviour. Science is incomplete and practitioners will be without a guide to action in many cases."* (Chambers 1975 p38), whilst Howe believes that *"To look for skills in human behaviour and relationships and build them on the unsettled foundations of social science theory is a precarious business. The occupation's lack of effectiveness in changing individual attitudes and behaviour, the failure of the social sciences to predict human conduct, the fundamental disagreements about the nature of human beings and their actions, and finally the possibility that few social workers make use of such theoretically informed skills in practice, all serve to cast doubts on the wisdom and pertinence of continuing this style of thought and practice."* [Howe 1980 pp332-3]. Content is clearly seen as being much more than a simple 'shopping list' of items and in fact represents a core feature of the diachronistic debate regarding

knowledge of and for social work, and is perhaps an exemplar of the symbiosis that exists regarding its various components (i.e. structure, type, form, content etc).

Other considerations would need to focus upon knowledge *transfer, use, development* and *dissemination,* these all possessing an iterative quality, so that the 'elements' of knowledge outlined above can be seen to be representative of a dynamic process concerning knowledge in all its component parts. Such an approach seeks to avoid confusion around the range of differing definitions and distinctions within the literature concerning knowledge types, forms and contexts by establishing a clear process of differentiation and definition based upon extant epistemic principles within a clear typology. In this regard I intend to adopt and adapt what I consider to be a seminal work by Le Croy, Ashford and Macht (1989) whose paper provides a useful analytical framework that sets out to address their concern that:

> *"Methodological and conceptual limitations have resulted in knowledge being defined so narrowly that we accept the inaccurate conclusion that social workers fail to utilise knowledge…[so]…a framework is proposed that makes explicit the philosophy of science and practice assumptions germane to the use of knowledge in practice."* (Le Croy, Ashford and Macht 1989 Abstract p3).

Thus, approaching critically the issue of knowledge *qua* knowledge, we can then proceed to analyse the elements of the debate regarding professional/social work knowledge with the benefit of a clear underpinning epistemological typology to act as the basis for analysis.

2.6 The Professional Knowledge Debate

In this section I shall provide a brief account of the main themes and issues relevant to the debate concerning professional/social work knowledge as represented within the extant literature and locate this within the broad knowledge 'elements' I outlined

above: *definition, production, transfer, use, development and* dissemination. It is not my intention at this point however to be either comprehensive or definitive; rather my aim is to highlight the range of issues to which the body of this inquiry will address itself later, both theoretically and empirically.

2.6.1 Knowledge for Social Work?

Debate concerning professional knowledge is clearly bound up with that particular appellation: professional, with one of its perceived and necessary characteristics or traits being the possession of specialist knowledge providing a particular occupational group with the basis upon which to claim expertise (Johnson 1972). From a functionalist perspective, *"It seems evident that many of the most important features of our society are to a considerable extent dependent on the smooth functioning of the professions."* (Parsons 1939 p457). Thus, knowledge is not only necessary, but it *is* power. Such a deceptively simple 'fact' offers one reason why the whole debate concerning knowledge of and for social work has been, and continues to be, so lively. However, this is but one reason for that debate. Others include the need to be able to 'do' the task of social work (or whatever: nursing, teaching) more effectively, efficiently and ethically, and as such the possession of 'expertise' is seen as a very important occupational characteristic, often bounded to those attributes of individuals possessing highly sophisticated abilities, including the possession of high-level knowledge (Fook, Ryan and Hawkins 2000). This is particularly so as social work and other human services deal with many of society's most vulnerable and most dangerous individuals.

For some however, the existence of human expertise is taken to be but one exemplar of the very reason why the human sciences *per se* are found wanting in terms of theory development. This is given support by reference to the failure of cognitive science and artificial intelligence to replicate such a phenomena (expertise), it being based it would appear on the use of intuition or 'tacit' knowledge forms (Dreyfus and Dreyfus 1986; Wolfe 1991), a very human capacity. This point however hides what I feel is a critical issue in this debate; there is still a lack of clarity about what social work *is* and ergo, *what it should do*. For some, social work can be seen as a 'repressive' force within society particularly for those with 'radical'

or Marxist positions (Bailey and Brake 1975; Rojek, Peacock and Collins 1998; Ferguson and Woodward 2009), and even though there have been recent attempts to clarify its remit (Grayson 2003; Pawson *et al* 2003; Scottish Executive 2006; GSCC 2008) in addition to the existence of a formal 'definition' (IFSW 2014) to which most of the profession appears to subscribe, there is still confusion over its purposes.

Loewenberg (1984) claims that there is an *"urgent need to clarify once again the basis, content, function and domain of our profession"* (p309). Thus, the issue of knowledge of and for social work appears to be intimately connected to its *raison d'être* and to its context, thus implying that to some extent a more pluralistic attitude might in fact be helpful. Reid (2001), acknowledging others and perhaps shying away from an explicit behaviourist position notes:

> *"In methodological pluralism the type of method one uses depends entirely on the questions and contexts of enquiry and not on one's epistemological position. Methods are evaluated pragmatically in terms of how well they do the job; they are not seen as being undergirded by foundational philosophies (Seale [2002])."* (Reid 2001 pp286-7).

Regarding the *structure* of professional knowledge, the literature tends to see this as being somewhat synonymous with concerns regarding underpinning methodological assumptions and for the most part structural issues are *implicit* within the debate. For many in social work, the potential impacts of human science methodologies, approaches and findings leave much to be desired. For example, Downie and Loudfoot contend *". . . that the possibility of a science of human relationships with the certainty of the natural sciences does not exist, and hence that there is serious doubt about the reality of a social work expertise based exclusively on it."* (Downie and Loudfoot 1978 p119 cited in Howe 1980 p333). Taylor and White argue that for social workers, *"An unquestioning dependence on external, pre-existing knowledge will not be sufficient*…" (Taylor and White 2001 p47) thus implying that *KT* is simply not enough. They do however *"…agree that evidence from research and so forth can assist workers in analysing risk and harm*

but this still leaves the social worker with the task of deciding which evidence is relevant to the case, and crucially of categorising people as blameworthy or morally adequate and situations as harmful and risky or otherwise." (Ibid p47). Attention is here drawn to the connection between the (unarticulated) mechanisms operating within particular methodologies and the *use* to which such knowledge as is generated is subsequently put.

The need for social work to utilise and refer to relevant knowledge is arguably unquestionable, all the more so when the activities of a particular occupational group may be such as to involve life and death decisions in cases of serious child abuse for example (Laming 2003: 2009; Pritchard and Williams 2010; Devaney, Lazenblatt and Bunting 2011), decisions to detain people against their wishes as in the case of the care and treatment of those individuals with a mental disorder (Hothersall and Maas-Lowit 2008) or those affected by a range of disabling conditions making them vulnerable to harm and exploitation (Hothersall and Maas-Lowit (2010: 2011). Howe (1980) notes that with its *'…yearnings which it has for professional recognition, social work has found itself looking for a distinctive and convincing body of knowledge'* (p319) to the extent that it appears to hang on to everything it develops, thereby presenting with a rather 'swollen' and 'congested' knowledge base, perhaps representing nothing more than *'…the steady accumulation of unrelated relics'* (Ibid) for which he suggests there may be three possible explanations. Following Kant, *'…if it is impossible to produce unanimity among those engaged in the same work, as to the manner in which their common objective should be accomplished, then we may be convinced that such a study is far from having attained the secure course of a science, but is merely a groping in the dark.'* (Kant 1787/2007 in Howe 1980 p13). Thus, being unable to agree on what to do does little to clarify how it should be done. Howe then refers to Kuhn (1970 p91) as a means of suggesting that the range of theory within social work's purview might represent *'…symptoms of transition from normal to revolutionary research'* (Kuhn 1970 p91 in Howe 1980 p319), in short, the beginnings of a paradigm shift, although this is perhaps overstating the case. Thirdly, he suggests that all the variations and disagreements about knowledge of and for social work and how this should be formulated and utilised could actually imply *'…that social*

work will never actually establish a uniform body of knowledge as it is not a uniform phenomenon. Rather, it is a compendium of different theories and practices employed to help those who find difficulties in social living or those who present problems for the smooth conduct of social life.' (pp319-320).

These apparent 'failures' of social work in terms of behavioural and social change and the use of codified propositional knowledge (*KT*) to the apparent exclusion or derogation of other forms of knowing perhaps supports what Grace and Wilkinson (1978) claim, namely that *'The nature of social work knowledge is not to be found in the literature, but "in situ"'* (p322). This clearly refers to the use of knowledge derived in and from practice (Curnock and Hardiker 1979) emphasising the importance of how social worker's do what they do, an additional *type* of knowledge: knowing how (*KH*). Howe suggests that "…*social work is an occupational description given to a number of disparate activities"* (p320) and that the knowledge components required "…*grow in proportion to the number of activities identified or proposed as examples of social work.'* (Ibid). As a result '…*social work theories as well as social science theories in general have been disappointingly unsuccessful.*" (p321). Some writers note however that the apparent lack of theory *use* by social workers in situ (Carew 1979) may well have something to do with the perceived 'inadequacies' of the theories themselves. Rosen (1994) in his study begins by stating that, *"…effective and accountable practice will be enhanced through focused efforts to develop scientifically valid and practice-relevant knowledge and through appropriate use of such knowledge in making practice decisions."* (p561). His findings (Rosen 1983; 1992; 1994) suggest that social workers are poor at being able to identify and articulate the knowledge they actually use in practice (which is distinct from them not actually using any), and he suggests that the *structure* of knowledge itself may be an impediment to its effective use in practice:

> *"To be useful professionally, theoretical or empirical generalisations need to be applicable beyond the specific instances (cases or study samples) on which they are based...Thus, the very feature that renders knowledge statements professionally worthy (their generalisability) may be an obstacle*

> *to their use by practitioners in a specific practice situation*." (Rosen 1994 pp562-3).

This is a fairly clear statement to the effect that attempts to apply knowledge generated through the methodologies of the natural and human sciences end up losing their relevance in the very act of application, the dilemma of the *"…idiographic application of normative generalisations".* (p562). This is, in essence, a restatement of Hume's paradox concerning induction.

These concerns regarding the *type* of knowledge of and for social work are also to be considered by reference to the issue of how knowledge becomes accepted and articulated in the first place. Particular types of knowledge have historically been more privileged over others, their underlying methodological structures generating what Foucault (1974) refers to as 'regimes of truth'. These are located within the broad 'episteme', which itself comprises (amongst other things) of "*…the totality of relations that can be discovered, for a given period, between the sciences when one analyses them at the level of discursive regularities."* (Philp 1979 p191), a contemporary example of this being evidence-based practice. And although Philp makes particular reference to Marxist forms of knowledge, he makes the more general point that these various forms tend to suffer from epistemological idealism that fail to take account of the influence of broader issues regarding what social work *is* and what social work *does*: in effect, the relevance of the specific (existential) context. This he says is important because it is this that predefines the *content* of knowledge as well as influencing its construction from the perspective of how underpinning epistemic principles are utilised i.e. are they free of bias generated by the influence of overarching structural (situational) influences, Foucault's point exactly: "*Knowledge can be seen to be related to economic, social and political forms. In this way also knowledge can be seen as subject to ruptures and discontinuities…"* (p85).

This particular approach perhaps emphasises what Rosen and others have argued, that with governments now seemingly requiring greater 'proof' of the efficacy of interventions to justify funding and to maintain political credibility, especially

regarding those interventions designed to enhance public safety, the search for the 'Truth' (with a capital 'T') could be seen to be obscuring the need for epistemological clarity and functional relevance, thereby continuing to privilege certain types of knowledge over others. This apparent focus on the use of propositional knowledge (*KT*), for example through the evidence-based practice discourse, could minimise the role of other forms of knowing, undermining the agency of the possessor of that knowledge, particularly in terms of what type of knowledge is applied when and under what circumstances. Philp (1979) suggests *"…it is essential to see that if a form of knowledge exists which we can call 'social work knowledge' it does so because it is the product of a specific historical, social and economic situation and that it will be related, in the form it takes, to that situation."* (p87), a sentiment highly relevant to the evidence-based practice movement.

2.7 Accounts of Professional Knowledge

Eraut (1994) provides perhaps one of the earliest comprehensive accounts of professional knowledge considering the different kinds (*types*) that exist and how these are *used* in a particular *context* (Gammack 1982) and located within the broad frame of reference of professionalisation. Whilst there is some discussion of epistemology in the sense of knowledge equating with justified true belief (p16) there is little discussion of epistemic principles and this perhaps reflects its rather *generalised* approach, albeit for a professional but generally non-philosophical audience, which I acknowledge. The commentary offers a useful *overview* of knowledge in a general sense in that his focus is on knowledge as a *taken-for-granted entity* without specific reference to underlying epistemological structures, and there is a somewhat bewildering array of labels used to refer to different types, forms and functions of knowledge (procedural, propositional, practical, technical, tacit, action, public, private etc) which it is difficult to disentangle, largely because these are often used interchangeably and therefore synonymously. Eraut does acknowledge this however when he says that:

> *"For the purposes of this book, which is concerned with developing professional knowledge in its fullest possible sense, I intend to use the term 'knowledge' to refer to the whole domain in which more specifically defined*

clusters of meaning reside." (p16).

He also provides what he refers to as a 'map of professional knowledge', essentially a four-fold typology comprised of *propositional*, *personal, process* and *'other'* types of knowledge. These four types are seen to be the constituent elements of a professional knowledge *base* and his task is then stated as being that of *'…considering how they are acquired and discussing their role in professional action'* (p103). Thus, his focus is more about knowledge *use*, as his discussions concerning knowledge acquisition at no point appear to take account of relevant epistemological principles or processes in any depth, such that what Eraut refers to as *knowledge* is essentially taken-for-granted *as* knowledge. However, one of its strengths is that the issues he raises are easily generalisable to knowledge issues in other professions, acknowledging the increasing awareness that knowledge *forms* and related *content* should increasingly be seen as being *inter*-disciplinary (Skaerbaek 2010).

For the most part discussion and debate within the literature relating to knowledge of and for social work tends to centre on the *type* of knowledge deemed most appropriate. Aligned to this is the question as to whether or not social work needs to be seen to be the possessor of a credible *base* of knowledge to which people can refer and what the *content* of this perceived corpus ought to look like. This notion of a *base* of knowledge is but one identifiable feature posited within the whole functionalist ideology of professionalism (Etzioni 1969; Goode 1969; Parsons 1968), although some see this approach as akin to creating a 'caste-system' of knowledge (Katz 1969), a view not dissimilar to criticisms aimed at the hierarchical positioning of evidence-based practice knowledge forms at the present time (Goldenberg 2009). Within the social work literature however, Stevenson (1971) warns against the idea of a specifiable knowledge base for a number of reasons, preferring instead to use the analogy of a 'frame': *"…you can put what you like in a frame."* (p227). She argues that because of the shifting nature of this entity referred to as 'social work', to have a definable knowledge base is unworkable, as she believes that "we *should not be talking at this stage in our development as if the knowledge upon which we can draw had a shape and clear-cut boundaries…"*

(p226), largely because what social is itself is not clear-cut, an issue no less important today as it was over three decades ago.

Payne (2001) provides a similar perspective when he suggests that the notion of a knowledge *base* is unhelpful and argues for the notion of a knowledge *bias*. This he suggests would more accurately reflect the idea that knowledge is constructed and *re*-constructed as required dependent on circumstances, context and a range of other factors. The notion of a knowledge *base* presupposes that there is some knowledge social work cannot do without. A knowledge *bias* is rather a leaning towards some particular theoretical construction: *"…the role of knowledge within social sciences is more of a process of social construction than the establishment of irrefutable and universal laws of social behaviour."* (p145). This view provides some measure of support to the view that eclecticism could be a valuable mechanism in practice (Siporin 1979), having parallels to the pragmatic principle, although it is important to avoid conflating basic occupational activities (e.g. the giving of advice) to the status of what Timms and Timms (1977) refer to as 'treatment tools' and assuming that such is done by reference to claims to particular, specialist forms of knowledge.

Drury-Hudson (1997) aims to *'…provide a model of professional knowledge and argue that social workers should become more proficient in incorporating theoretical and empirical knowledge in their practice in order to improve accuracy and consistency in decision-making so as to provide a better standard of accountable practice.'* [p35]. In relation to this particular model she states that '*It is considered that such a model is needed because often professional knowledge is discussed without any attempt being made to define what is meant by this term.*' [p37]. Drury-Hudson identifies from the literature *'Five principal knowledge forms…and together these form the basis of professional knowledge'* [Ibid], which is defined as '*the cumulated information or understanding derived from theory, research practice or experience considered to contribute to the profession's understanding of its work and that serves as a guide to its practice'* [Ibid]. These categories of knowledge are labelled *theoretical, empirical, personal, practice* and *procedural*. Each of these is

described in an attempt to differentiate their constituent elements whilst trying to illustrate their interconnectedness. These differing *types* of knowledge all have their own sources and Drury-Hudson suggests that each of these has in its own way a degree of merit dependent on the nature of the situation knowledge. She refers to such eclecticism as being an important element in terms of knowledge utilisation and acknowledges that there are critics of this approach who would argue that the '…*indiscriminate importation of ideas has not resulted in the formation of a coherent knowledge base that supports the professions objectives, but has resulted in the fragmentation and incoherence of ideas and the mixing of concepts.'* (p38). Her contention that eclecticism itself has validity as a practice has more than a passing resemblance to the utilisation of the *pragmatic principle* and she cites Simons and Aigner (1979) who suggest that many people misunderstand the notion of eclecticism. Drury-Hudson suggests '*True eclecticism requires the ability to be fully informed in relation to a variety of theories and to be able to switch from one practice theory to another in an effort to meet the particular demands of each unique problem, situation or client.'* (pp38-9).

I would go further than this and suggest that true eclecticism is in fact nothing more or less than the application of the *Pragmatic Principle* that allows for the justified use of elements of relevant and appropriate theory and facts as required, providing such use is guided by having due regard for epistemic competence *set within the functional boundaries of post-Gettier epistemological principles* (Chisholm 1966). By adopting such an approach we can perhaps counter Rosen's (1994) claim that:

> *"Through artful epistemological mystification, the process and substance of direct practice are claimed by such proponents to be impervious to real comprehension and evaluation by anyone except the participating clinician. Although their view may be ideologically appealing, it discredits a priori any attempt to subject clinical practice to systematic inquiry or criticism."* (p563).

What Rosen suggests however does have some validity: indiscriminate generalisations that have no credible means of support, epistemological or otherwise, understandably lead to worries regarding 'theory-less practice', (Paley

1987), the abandonment of the relevance of research and a tendency towards *"…justifying an extra-scientific status to practice knowledge."* (Ibid). This should not however be taken to mean however that scientific knowledge is at the zenith of credibility; it is rather to acknowledge his general point and argue that for any form of knowledge to have status, it has to be credible, based on clear criteria which may or may not be those of the natural sciences in contradistinction to those derived from more interpretive approaches (Lobkowicz 1967; Rotenstreich 1977).

Saleeby (1989) claims that social work is *"…beguiled by the notion of professional practice as a kind of scientifically based applied technology."* (p556) that has arisen because of what might be perceived as an institutional and conceptual dichotomy between theory and practice that serves to separate 'knowing' from 'doing'. The effect of this has been to remove the responsibility of knowing from the act of doing. One contemporary example might be the practice of using unqualified Family Support Workers to supervise contact visits between parents and their children where there is a 'context for concern' (Samuel 2011). In these situations, the information gleaned from such events is often used as 'evidence' of parenting capacity and subsequently used to inform future decision-making concerning the welfare of the child. Personnel who have not been trained to a particular level may have less knowledge regarding what to observe and, importantly, how to subsequently interpret this in the context of broader child welfare issues.

This is not to suggest that such practices are fundamentally about the use of propositional knowledge, *knowing that*, to the exclusion of anything else, but a certain awareness of the range of knowledge propositions concerning say, child development would be necessary in order that meaning can be applied to the situation. This begs the question as to what extent *knowing how* or forms of tacit knowledge are underpinned by reference to *knowing that*? One (implicit) explanation for this approach might be the assumption that 'common sense' or particular value positions are in the fact used as the basis for knowledge (Rosen 1994). Where value positions are seen as being universal, they are easy to apply. For example, it is generally felt to be the case that adoption for young children is

preferable than long-term foster care. Whilst this may *generally be true*, it is not true for all children and all situations, but practices that pursue such outcomes may be justified by reference to this general value position without recourse to the evidence of practice or research. In these situations, the use of value positions could be seen to have a heuristic function.

Emmert (1985) draws attention to a distinction between two kinds of knowledge: 'ordinary knowledge' and 'policy-science knowledge'. This dichotomy is used to illustrate the relevancy of both *knowing that* (policy-science) and *knowing how* (ordinary knowing) within practice. 'Ordinary knowing' is that which *'does not owe its origin, testing, degree of verification, truth status, or currency to distinctive [professional social inquiry] techniques but rather to common sense, casual empiricism, or thoughtful speculation and analysis'* (Lindblom and Cohen 1979 p12, in Emmert 1985 p99).

By contrast, '*[P]olicy-science-based knowledge is grounded in theories and empirical evidence that are subjected to systematic and rigorous efforts at falsification.'* (p99). An important element within this paper is the discussion regarding *causality*. In many practice situations, causality is a key factor for practitioners to consider and forms the basis for any form of risk assessment, a central preoccupation of social work and other human services at this time underpinning many aspects of practice (Hothersall and Maas-Lowitt 2010; Webb 2006). Emmert (1985) suggests that as these knowledge forms arise from differing sources, 'ordinary knowing' may be more amenable to being used to understand *apparent* causality (my emphasis). Evolutionary epistemology would support a neo-Darwinian perspective on how we use past experience as a heuristic device (Cook and Campbell 1979) and even Popper would appear to agree as to the potential value of such an approach:

> '*Without waiting, passively, for repetitions to impress or impose regularity upon us, we actively try to impose regularities upon the world. We try to discover similarities in it, and to interpret it in terms of laws invented by us. Without waiting for premises we jump to conclusions. These may have to be*

> *discarded later, should observation show that they are wrong. The method of trial and error is not of course identical with the scientific or critical approach-with the method of conjecture and refutation. […] The difference lies not so much in the trials as in a critical and constructive attitude towards errors; errors which the scientist consciously and cautiously tries to uncover in order to refute his theories with searching arguments.'* (Popper 1963 p52 in Emmert 1985 p102).

The tendency to search for meaning (perhaps with some psychological parallels to the notion of the *Gestalt*) and impose such 'regularities' is in my view entirely consistent with the principles underpinning pragmatism: trial and error learning has as its focus the generation of knowledge in order to maximise homeostasis as do actions underpinned by reference to the philosophical principles of pragmatism. The aim of both is to generate knowledge that is *functional* and in this regard the example of attachment theory is well placed to illustrate these very processes of knowledge generation, use and functional significance, not just in terms of the relevance of these features for practitioners, but for all of us.

Attachment theory offers an account of how individuals construct knowledge of their world (*KT*) and act on the basis of it (*KH*) to maximise their safety (physical, psychological and emotional), entirely consistent with the maintenance of homeostasis as implied by the principles of pragmatism. Attachment theory can therefore be seen to exemplify pragmatism and the interface of *KT* and *KH*, both forms of knowing (Crittenden 2000a: 2000b: 2008; Howe 2011). I would contend that the manifestation of particular attachment strategies, particularly those regarded as being of the insecure/anxious type and therefore dysfunctional relative to the more 'privileged' secure types of attachment could, through the lens of pragmatism be seen as entirely congruent with an individual's unique situation where so-called insecure attachment patterns are entirely *functional* for that person by reference to the principle of homeostasis. We therefore have the phenomena of what I shall refer to as *functional dysfunctionality*: functional for the individual concerned because it maximises safety and therefore maintains homeostasis, but perceived as *dysfunctional* by the professional and therefore in need of rectification

(Houston 2001). This is in my view a classic example of the manifestation of Gettier-type problems within social work practice.

It is important however to maintain a level of critical awareness regarding the current state of available knowledge and understanding concerning any issue, including that of attachment. The Duhem/Quine thesis (Duhem 1954; Quine 1960) states that the evidence will always underdetermine theoretical formulations as, following Hume (again), there is no amount of data that can ever constitute a theoretical conclusion: all findings and subsequent theoretical constructs are, by definition, ambiguous and fallible (Yalcin 1992; Vahid 2005). However, there are examples of many theories being fully accepted by the scientific/practice/community because of the closure of scientific debate when people argue that such and such a theory is definitive, when in reality it can never be so. If we accept the *incommensurability thesis* derived from both Kuhn (1970) and Feyerabend (1975) in this regard as the operationalisation of the Duhem/Quine hypothesis, then the apparent domination and persistence of some theories (the Ptolemaic view of the solar system or Becher's Phlogiston theory) must be attributable to *social factors* rather than any extant objective criteria. In this we must consider Laudan (1990) who differentiates between *underdetermination* and *radical indeterminacy*. In the former, there is acknowledgement that there is no infinite (or indefinite) number of equally plausible interpretations that we can rely upon that are *reasonable* and logically compatible with the body of knowledge on a subject – the thesis of nonuniqueness. Thus, by accepting this view, we simultaneously reject the thesis of *cognitive egalitarianism* and stop short of *radical indeterminacy* where <u>all</u> rival theories and interpretations thereof are seen to have equal worth or are equally rational to accept. Contextual factors therefore have a constraining influence on the interpretation of theories and the extent to which claims have credibility. This serves to return us to the discussion of issues central to the whole philosophy of science and the apparent pre-eminence of the positivistic tradition, one that has clear relevance to the issue of knowledge *of* and knowledge *for* social work, the whole basis of this thesis.

At this point I would contend that one of the main issues confronting social work is not so much that relating to what type or form of knowledge is best, or whether one methodological approach *per se* is more or less appropriate than any other in terms of the means by which to produce such knowledge. Rather, it is perhaps about the *status* we accord knowledge, how we use it and how we come to define it as knowledge worth having in the first place. Different methodologies and approaches to knowledge creation, use and dissemination should not necessarily be seen as 'good' or 'bad'; rather, they and the knowledge they engender should be tested by reference to the pragmatic principle in order to determine their *functionality* in relation to the particular context such knowledge aims to address itself to.

For example, a very good exemplar of highly important *propositional* knowledge represented by a 'checklist', anathema to some, would be Sheridan's developmental milestones (Sheridan 1997). Functionality therefore is key to this whole debate and this concept needs to be elaborated within a pragmatic framework, as it may be the case that it is only really through the application of a pragmatic epistemology that 'true' (with a small 't') and arguably useful knowledge of humans and society can be generated, particularly if, as it seems, Hume's objections to induction pertain. *If* this is the case, then we have to review our conception of knowledge and situate it within a functional (pragmatic) framework and acknowledge that perhaps 'inference to the best explanation' is the best we are ever likely to get (Goldstein 2011), and that Hume was right after all.

Finally, in relation to the interface between knowledge of and for social work and the role of social work education, Downie and Loudfoot (1978) suggest that *'No amount of knowledge of what is the case can ever establish for us what we ought to do about it. The need for practical judgment of what we ought to do, granted our knowledge, is inescapable; and therefore there are radical limits to the possibility of expertise. It is on the connection between his own everyday problems and those of his client, rather than on any doubtful connection between the natural and social sciences, that social work education should concentrate.'* (p122). Thus, the claims and assertions made within this paper have implications for a whole range of

applications and represent the main areas for a useful inquiry into the development and substantiation of a viable and coherent (pragmatic) epistemology of and for social work.

Chapter 3: The Philosophy of Methodology

3.1 Introduction

In this chapter I shall explain, discuss and critically analyse issues appertaining to philosophical positions, paradigms of inquiry, ontology, epistemology, methodology and associated methods of data collection relevant to this thesis. As noted in chapter two, it is important to evidence coherence and consistency across the philosophical, theoretical and methodological domains, and as such I am utilising an essentially *pragmatic* methodology by adopting a mixed-methods approach (Johnson and Onwuegbuzie 2004, 2006; Johnson, Onwuegbuzie, and Turner 2007; Teddlie and Tashakkori 2009) in relation to both the empirical and the theoretical elements of this work. As will be seen, this philosophical approach permeates the methodological position adopted and, in terms of the methods used (Q-methodology), allows us to take account of the importance of both *statistical significance* and *the importance of meaning* in terms of empirical findings, and as such reflects the view that:

> "*A major reason that pragmatism is the philosophical partner for MM [mixed methods] is that it rejects the either-or choices from the constructivism-positivism debate. Pragmatism offers a third choice that embraces superordinate ideas gleaned through consideration of perspectives from both sides of the paradigms debate in interaction with the research question and real-world circumstances*." (Teddlie and Johnson 2009: 73).

It is also important to acknowledge and thereafter articulate an ongoing awareness of the myriad relationships that potentially exist between philosophical positions and methodological approaches and how these are impacted upon by reference to our understanding of the nature of reality, or our definition of truth and what may or may not be regarded as knowledge (Howell 2013). In this regard, and drawing upon the ideas regarding the acquisition and use of differing forms of belief *qua* knowledge, a mixed-methods approach allows us to acknowledge that *"…all research involves induction and deduction in the broad sense of those terms; in all research we move*

from ideas to data as well as from data to ideas." (Hammersley 1992:168). Furthermore, in adopting such a position it is possible to reject what Bernstein (1983) refers to as the *'tyranny of method'* whereby the epistemological (conceptual) is allowed dominance over the practical (empirical) whilst also allowing that which is purely conceptual (epistemological) to determine the nature of the empirical (practical). Following an essentially pragmatic approach is supported by Howe (1988) who states *"…paradigms must demonstrate their worth in terms of how they inform, and are informed by, research methods that are successfully employed. Given such a two-way relationship between methods and paradigms, paradigms are evaluated in terms of how well they square with the demands of research practice…"* (p10) and not the other way round. Thus:

> *"[T]he paradigms debate is an oversimplification that ignores, on the one hand, the thought processes involved in sustained enquiry where deduction and induction advance in an iterative process; and on the other hand the range of traditions within social science enquiry, many of which make use of both modes of analysis."* (Gilbert 2006:207).

Both historically and (still) contemporaneously, the availability of different methods and the perceived degree of alignment between these and the topic(s) under scrutiny often continue to determine the approach to reasoning one should take (or vice-versa) – essentially deductive or inductive. In the context of using a mixed-methods approach, whether one ought to follow an essentially deductive or inductive approach is rendered moot and seen not as an 'either/or' dilemma but rather as a 'whether or not' *choice* determined by the question(s) being addressed. The methodological dilemma is essentially resolved by reference to the principles of *abduction* (Shank 1998; Haig 2005: 2008: 2012; Tavory and Timmermans 2014), themselves a corollary of pragmatism. Abduction proceeds on the basis of reflection on a particular situation (a set of outcomes, a possible solution to a problem) and then speculating on a possible course of action – an 'if-then' formulation that *if* you act in a particular way, *then* you are likely to produce a specific outcome(s).

As such, a clear articulation of the importance of the history and developments of and within the philosophy of science represents a useful means of locating my

particular approach within the broader context of knowledge creation, use and development. Included in this is the need to acknowledge and take account of the role of language. In relation to the philosophy of science and the emergence of particular ideologies, paradigms and dominant methodologies, language has played a significant role. For science, the need for a strong (some would say, strict) correspondence between the word and reality is essential as this is the predicate upon which its predictive power is seen to rest. Where the degree of correspondence is weak, or is challenged, questions emerge regarding the determinate relationship presumed to exist. As Gergen (1998) notes:

> *"…it is primarily in the degree to which there is correspondence between theoretical language and real-world events that scientific theory acquires value in the marketplace of prediction. If scientific language bears no determinate relationship to events external to the language itself, not only does its contribution to prediction become problematic, but hope that knowledge may be advanced through continued, systematic observation proves futile."* (p34).

Epistemology, like other things is represented and made dynamic by reference to language – there is here a symbiosis that requires explication, so to pass over the role played by language in the history of the development of approaches to the creation of knowledge (Hempel 1966; Chalmers 1999; Okasha 2002; Delanty and Strydom 2003; Dicken 2010; Benton and Craib 2011; Brown 2012) is to ignore the importance of how differing ideologies and a range of other factors are themselves shaped, and subsequently define and craft how we come to know the world and achieve understanding and impose meaning on it (Brier 2000).

This is an important issue: as this thesis represents an exploration of the ways in which professional social workers define, produce, transfer, use, develop and disseminate knowledge within contemporary practice, consideration has to be given to the way language shapes the nature of the research question(s) by reference to the concourse of statements. As is made clear in chapter 4, the concourse is a 'thematic' representation of the current *zeitgeist* regarding professional knowledge

in social work, derived from conversations with professionals in the field as well as themes extracted from published literature and other sources. The issue here, given the constitutive nature of language, is how representative is the concourse of the professional debate? Does the nature of the language used potentially compromise the nature of the findings because it generates an inherent bias in terms of how statements are represented? Is their representation an accurate one, or (merely) *a* representation – in this case, mine?

If we return to the issue of contextual determinacy, we can argue that if the statements were *not* deemed by the participants to be relevant and to have general 'sense', then they would challenge them as being either irrelevant or, at the extremes, nonsensical. As Margolis (1999) reminds us, '…*general predicates [. . .] cannot be extended to new instances, except informally, in terms of what, consensually, may be tolerated as effective or incremental extensions from acknowledged exemplars."* (p63). The concourse of statements are the 'acknowledged exemplars' to which Margolis refers. Any 'stretching' of these beyond the realms of what would fall within the Wittgensteinian 'rules of the game' would likely result in challenge or an inability to undertake the study because it was meaningless to the participants. The piloting of the statements with a small group of social workers beforehand represented the means by which the legitimacy of the statements could be tested. In addition, Margolis goes further when he says that '*our aptitude for discerning relevant similarities in a run of would-be cases—any cases—signifies our mastery of the same sittlich practices within whose bounds such similarities obtain or are reasonably extended'* (Ibid p64-emphasis in original). Thus, when presented with the concourse of statements, they are similar to that which would ordinarily sit within the realm of what is accepted and understood. There is therefore a clear and explicit acknowledgement of the potential for bias and distortion, but this is controlled for by reference to the linguistic exemplars regarding this topic that both are extant and contemporaneous.

3.2 History and the Philosophy of Science

The popular conception of the distinctive features of what is referred to as ‘scientific knowledge’, as opposed to other forms of knowledge (Barnes, Bloor and Henry 1996) is that it is derived from the ‘facts’, and as such can be given preferential status. It is this view that has led to many of the disputes regarding the credibility and ergo, the importance of differing forms of knowledge, a core feature addressed within this thesis. Widely held conceptions of the relative merits of differing forms of knowledge are reduced to a somewhat atomistic perspective by reference to the perceived pre-eminence of the ‘scientific method’ (Gauch 2012; Carey 2011), and by implication, the superiority of what I will refer to as ‘positivistic’ methodologies (experimentation and the like). These claims appear to rest on a number of assumptions – that science simply describes what we see and is based on our observations, which are tested in a systematic and value-free way. Or so the argument might go.

The history of the philosophy of science and this denouement regarding scientific knowledge represents a central issue in relation to social work and many other professions. As we saw in chapter one, Flexner (op cit) made the claim that social work was not a profession (largely) because it did not possess a distinct body of knowledge it could call its own. In large measure this is a nod towards the possession of ‘scientific knowledge’ as Flexner cited medicine as the standard bearer for all professions and referenced its possession of large tracts of (scientifically-generated) knowledge to its credit. The possession of knowledge based on the ‘facts’ has a long history, and an overview of some of the key themes, issues and debates will serve to contextualise what follows. It is this, and the emergence of differing conceptions of what knowledge is and ergo what methods are best applied to its appropriation that requires a historiography so that the present thesis and its contentions can be seen in both historical and contemporary perspective.

The history of science and philosophising about it, can be traced to antiquity – moving from the Ancient Greeks - Parmenides, Hippocrates, Plato, Aristotle,

Theophrastus, Socrates *et al* (Lloyd 1970), through the Romans - Pliny the Elder, Ptolemy, Marcus Aurelius *et al* (Stahl 1962) to the great figures of the Enlightenment and the so-called 'Scientific Revolution' - Copernicus, Newton, Kepler, Galileo, Bacon, Descartes (Henry 2008; Hannam 2011), leading to the emergence and persistence of what was to become known as the 'scientific method'. With its basis (at least initially) on the importance of observations as being the *prima facia*, taking the facts of observations seriously was seen as the foundation for knowledge. This view of the facts of observation being the basis for science and scientific endeavour (as opposed to everyday facts) rests on three issues: that the facts are directly available to an unbiased observer; that facts are prior to experience (*a priori*) and independent of theory and finally, that the facts constitute a firm and reliable foundation for scientific knowledge. These presuppositions formed the basis for the development of scientific method and the various approaches and ideologies underpinning it and persist in various forms to the present day.

Implicit within these three 'conditions' is the view that 'seeing is believing', that visual experience is simply based on the object viewed and that a 'fact' is an unambiguous statement. All of these assumptions are today readily dismissed as being naive. Visual experience is readily influenced and at times distorted by the environment (visual illusions – Muller-Lyer; the 'Moon illusion' etc), and what is viewed is now known to be distinct from what is *perceived*. All forms of perception are influenced by our previous experiences, expectations and pre-existing knowledge, thus seriously damaging the claim that facts are not influenced by theory. Furthermore, how a 'fact' is presented rests not so much on the fact itself (whatever that may be), but more on who is doing the presenting and the way in which the fact is conveyed, which itself rests on issues relating to the presenter's motives, their social position and a host of other features and factors (Chalmers 1990), leading the way (ultimately) for the emergence of a whole branch of research ethics (c/f Milgram 1963).

As the scientific method achieved what can only be described as remarkable successes, its pre-eminence began to be seen as axiomatic. Many of these were

based largely upon the approach to experimentation – the systematic gathering of facts and their testing and manipulation. This was and is important in relation not only to experimentation, but also to the process of systematic inquiry more generally. Those facts that are of benefit to the broad scientific endeavour are those that are the product of systematic inquiry – be that experimentation or any other sort, rather than everyday facts. Thus, there are it would seem 'relevant' facts and 'irrelevant' facts to be seen as appropriately aligned with the proper pursuit of science. This is not to say that there were not some spectacular 'own goals' along the way when viewed with the benefits of hindsight. Some of the 'facts' that constituted evidence upon which theories appertaining to the physical world were based were clearly incorrect. This notwithstanding, it soon became apparent that not only did the facts of observation allow for testing, but also that the results led to the development in theory which in turn allowed for the interpretation of the observed facts.

These developments foreshadowed the role of philosophical debate in relation to scientific endeavour: an understanding of what one is actually observing is beneficial to the whole process of scientific endeavour. If I don't know anything about the patho-physiology of the circulatory system, how am I able to recognise when a heart is malfunctioning? Previous experimentation and exploration regarding the circulatory system will inform my observations – will guide what I look for, so the *relevance* of the facts is important. Thus, the results of the scientific method are not only theory-dependent, but they are also revisable in light of new information and understandings. This gives credence to the view that the results of the application of the scientific method can be and are, *fallible* – the 'facts' so produced are open to revision based on the emergence of other facts that may contradict that which has gone before. This introduces the philosophical issue of *fallibilism* into the proceedings and will be considered later, but it is an issue of some significance for and within this thesis, particularly as it relates to pragmatism and the creation and use of different forms of knowledge and the distinctions between fallibilism and scepticism (Cooke 2006; Fantl and McGrath 2009; Gava 2014). In addition, the emergence of the critique of the scientific method and the realisation that outcomes are revisable (and ergo, fallible) leads inexorably to the conclusion

that the process is *circular*. If the findings of my work revised earlier findings, then this process must be circular. The processes of deductive logic, emanating from Aristotle's syllogistic reasoning in his *Prior Analytics* (Ross 2000), utilised as the cornerstone of the scientific method in its early days, suddenly becomes questionable. In deductive logic, the conclusion of any statement is assured by reference to the truth or otherwise of its premises. If the premise is true, then the conclusion must be true also:

Premise: All humans are mortal:

I am a human:

Conclusion: I am mortal.

However, all that this means is that the (deductive) argument is valid, not that it is necessarily *true*.

Premise: All cats have four legs:

Bella is my cat:

Conclusion: Bella has four legs.

This is a *valid* argument from a logical perspective, but it is not necessarily true. All cats (insofar as we know and *ceteris paribus*) do have four legs, but some do not because of accidents or even because of birth defects. Therefore, we should be wary of accepting conclusions from valid premises as if they were true without thinking them through and taking account of the problem of *induction*.

It is the logic of induction that generates serious problems not only for the status of the scientific method as *the* approach to inquiry, but also for epistemology *per se* in the context of the pursuit of knowledge and of *certainty*. The basis of an inductive argument is that it involves generalisations from observable facts and goes beyond what is contained in the premises. An inductive argument allows for the possibility that the conclusion is false even if the premises are true and as such we refer to inductive arguments as being *strong* or *weak*. In inductive reasoning, we see that we (necessarily must) draw uncertain conclusions from experiences, which, by definition, cannot be finite. The classic example of this is the claim that 'All Swans

are White'. The *problem of induction* is whether or not such reasoning can lead to knowledge? It is based on the claim that all futures will be like all pasts – even where regular occurrences have been noted, to claim definitively that this will always be the case is just not possible – a universal rule or claim cannot be made on the basis of a necessarily incomplete set of particular instances (Hume 1748; Howson 2000). Induction is capable only of asserting that a conclusion from a valid premise is *probably* true. In order therefore to minimise the potentially disastrous effects of the limitations inherent within inductive reasoning from the perspective of establishing *absolute* claims regarding the truth of something, we need to modify our demands that scientific knowledge must be seen to represent the truth. We need to acknowledge that any claim, based on induction, is *probably* true and recall that induction is *not* deduction.

One interesting feature of this discussion regarding the respective roles of deductive and inductive logic in relation to the pursuit of knowledge is that it soon becomes apparent that *both types of logic are inherent in the fuller processes and implementation of the 'scientific method'*. In undertaking any type of scientific endeavour in either the natural or the social world, we take our theories to test and on the basis of our (necessarily) limited observations, we draw conclusions/inferences. Deductive logic falls prey to inductive logic. These necessary truths (something of an irony in this context) lead us to recognise that the scientific method, as the panacea for the production of the truth, necessarily falls short. In this regard, all attempts in the history and philosophy of science subsequently have in effect tried to 'square the circle'.

The extent to which the scientific method aimed to establish truths was subsequently reframed by philosophers such as Karl Popper (1935/2002a: 1963/2002b) by reference to the principle of *falsification* (Kapsner 2015). Some assertions/claims are falsifiable, whereas others are not. For example, 'all points on a Euclidean circle are equidistant from its centre' is *not* falsifiable based upon the definition of such a circle, whereas 'all swans are white' has the potential to be falsified. It may take many observations of white swans to establish this point, but

it only takes one sighting of a non-white swan to falsify it. Thus, Popper's account of falsification helped to strengthen claims for the veracity of the scientific method by seeking to rationalise and make more modest its claims. However, such a view is not without its own limitations (Lakatos 1970), largely because the criterion utilised would have rejected many theories initially rather 'frail', but later consistent with theory and observations. Classic examples would be Newton's theory of gravitation and the theory that the 'wobble' in the orbit of Uranus was due to another planet (Neptune). Both Kuhn's (1970: 1996: 2000) arguments regarding paradigms and Lakatos's *research programmes* (1968: 1970: 1971; Worral and Currie 1978a: 1978b) attempted to locate scientific endeavour within frameworks designed to set parameters around the activities of scientists by providing rationales for the methodological approaches adopted and the ways in which findings could and should be utilised. This focus on attempting to clarify methodologies within certain frameworks and attempts to test these both retrospectively (by reference to the history of science) and contemporaneously by the use of the methodology of the frameworks led to criticisms that neither approach was sufficiently 'objective' enough. Both saw the role of the scientist/researcher as being central to decisions regarding the importance of findings and what was to be regarded as characteristic of science and *ergo*, true, even though neither explicitly acknowledged this 'subjective' flaw in their methodologies.

Partly as a result of these efforts, Feyerabend (1975) produced his anarchistic account of science, challenging all attempts to support the scientific method and offering a very individualistic account of portraying scientific method as little more than an accumulation of approaches where 'anything goes'. Feyerabend (1978) argues for the importance of freeing all scientists and researchers from the constraints of methodology and encourages people to be free to choose which types of knowledge they see as being of value *to them*. His thesis is that the institutionalisation of scientific method has served not to advance science in the way it ought to have done by reference to the realities of science itself, but rather to uncritically reify the scientific method and create a hierarchy where knowledge derived from the scientific method is regarded as more valuable and useful than

knowledge derived from other sources and by other means (Feyerabend 1981a: 1981b).

All of these accounts, save for Feyerabend's, amount to attempts to salvage the scientific method and its claims to being the 'universal' method for the development of knowledge in contradistinction to any other approach. Scientific knowledge seeks to describe and to predict, so robust and reliable methodologies are essential. The predictive nature of the scientific method as discussed above, can be seen to be found wanting when set against the need for absolute certainty in an uncertain world (Fantl and McGrath 2009), in spite of the myriad successes the scientific method can justifiably claim. A further development and response to issues regarding the probabilities of certainty derived from research and scientific activity is that of Bayes' theorem (Bayes and Price 1763) which focuses on conditional probabilities. This refers to the likelihood of a proposition being true relative to the strength of the evidence bearing upon it. The theorem describes how propositions are to be changed in the light of new evidence and currently has wide usage and applicability in the realm of gambling as well as other fields. It essentially informs decision analysis and has applicability in a range of domains, including social work (Webb 2002), risk assessment (Fenton and Neil 2013), research methodology (Fraser 2004), legal precedent (Walker and Monahan 1988) and many forms of statistical research (Lee 2012), the physical (Linden *et al* 2014) and the social (Kaplan 2014) sciences.

The issue is how to ascribe probabilities to theories or hypotheses in the light of available evidence. P(h/e) refers to the probability of the hypothesis/theory (h) in the light of the evidence (e). P(e/h) refers to the probability to be given to the evidence (e) if the hypothesis (h) is correct whereas P(h) the level of probability given to the hypothesis (h) in the absence of evidence/knowledge of it (e) and P(e) the probability ascribed to the evidence (e) in the absence of any assumption of the truth regarding the hypothesis (h). Thus:

$$P(h/e) = P(h).\ \frac{P(e/h)}{P(e)}$$

As a theorem it provides opportunities to determine both *prior* (P(h)) and *posterior* (P(h/e)) probabilities, the former being amended to produce the latter in the light of the evidence. Such calculations always take place in the context of some level of background knowledge. Hence, there is a context of subjectivity (induction) apparent that manifests itself in subjective degrees of belief regarding the strength/relevance of evidence, so it is not 'objective' even though it does subscribe to the rules of probability. That said these particularities do pose some problems for its application as a methodology if we are to take Bayes' theorem as a possible route out of the realm of subjectivism and, by extension, interpretivism. One of the main difficulties relates to the nature of 'evidence' within the application of the theorem. According to Howson and Urbach (1989), what data a researcher accepts to use in a Bayesian manner, whether it is accurate or a true reflection of something is wholly a matter for the researcher. In this way, such an approach is seen to be a mere tool for people to use in any way they choose and affords no surety regarding the 'scientific' nature of the outcome. As an application of scientific method, this falls far short of acceptable. The issue then refers itself back to one of the moral standing of the researcher and the extent of his/her belief in the data being used and the need therefore to think more closely about how what is evidence comes to be regarded as such. In this light, Bayes' theorem is open to misuse and would lead to no advancement in terms of the perceived rigour of the scientific method.

These developments subsequently led to (renewed) discussions regarding the relative merits of *realism* and *anti-realism* as ways of seeing and responding to the world (both natural and social) and to rather 'extreme' views regarding the uses of experimentalism (Mayo 1996; Hacking 1983). According to the *realists* (Dummett 1963; Bhaskar 1978: 2008; Leplin 1984) and those variants within Scottish Common Sense Realism (Reid 1818), aspects of our reality are ontologically independent of our ideas, theories and beliefs. Its claim for science is that it tells us about the nature of the world, both that which can and cannot be observed. Such claims regarding unobservable entities say the *anti-realists* (Tennant 1987; Rees

2012) cannot be supported, for how can we make claims regarding things we cannot see or evidence? Extreme forms of anti-realism argue that *nothing* can be objectively and definitively asserted because not only does the possibility exist, however small, of some fact being overturned or questioned by some as-yet-undetermined piece of evidence, but that the way we describe our findings is biased by reference to language and what underpins it in terms of researcher bias, social conventions and so on. These are to some extent valid claims against realism, but taken to extremes would simply serve to stifle any form of progress and push it into the position where scepticism is the norm. These views refer to various theories of truth to which philosophers subscribe: the correspondence theory (Russell 1912; Kirkham 1992; Hanna and Bernard 2004) and the coherence theory (Joachim 1906; Alcoff 1996), the latter of which is supported by the Duhem-Quine hypothesis referred to in chapter two: that the evidence will always underdetermine the facts (Duhem 1954; Quine 1960). Anti-realists would argue that the truth or otherwise of a theory is in fact not the issue – rather, the merit of a theory is to be judged on the basis of its generality and applicability or correspondence. This 'constructive empiricism' (van Fraassen 1980: 1989: 2008; Dicken 2010) argues that '…*the inference from scientific success to scientific truth is a problematic one. There is certainly no logical connection between the two, since it is perfectly possible for a predictively successful scientific theory to be false.'* (Dicken 2010:1).

Much of the discussion above has been leading to this conclusion. As a result, what all of the above appear to have trying to achieve is to justify the scientific method even in the face of what appear to be *fundamental problems* with it at a number of levels. There is a strong sense within the history and philosophy of science that the merits of the hypothetico-deductive model must be supported at all costs. However, as each of these responses has emerged, refinements not only to this particular model, but also to others and to the processes of scientific endeavour and methodology in general have been apparent, so there is much that has been gained. Clarification of some of the omnipresent challenges has clearly been apparent and a more reasoned and proportionate view is emerging, aided by these various debates and the strengths emanating from each, including a more pluralist view of truth (Lynch 2009) as well as that regarding methodology and what could

be regarded as knowledge in terms of its form and the sources from which it might legitimately be derived. In this light, I now turn to a consideration of the relevance of what can be regarded as a pluralistic framework within which one might conceivably encompass and effectively address a range of issues referred to above: pragmatism.

3.3 The Relevance of Pragmatism

> *"Pragmatism is principally a theory of knowledge with distinct views about the origin, nature and limits of human knowledge."* (Almeder 1986: 79).

Pragmatism, as an overarching and an underpinning philosophy (as opposed to simple notions about what is "pragmatic"), provides us with a framework and ergo the means by which we can develop and regard our belief systems/what we *know* as tools to assist us in meaningful and functional engagement with the world at large. It is fundamentally a *philosophy of experience*. In this, knowledge is regarded simply as a belief in something. If we believe that the sun will rise in the morning and that a cat is sitting on the sofa, then we have knowledge of something – the behaviour of the sun and the presence of a cat. Beliefs then are regarded as forms of knowledge, and these may be propositional or based entirely on our own experience, or both.

In the context of everyday life, any belief we hold is a means by which we may inform and understand both the world at large, natural and social, our own behaviour and that of others, such that these beliefs enable us to make meaningful sense of what is going on around us. Pragmatism relies upon the principle of *fallibilism* to act as a self-correcting strategy so that beliefs/knowledge currently informing our understanding of the world may be revised in the light of *experience*. In the contexts of everyday living, professional practice and research, pragmatism acts as a mechanism to help us develop, revise and refine the epistemological veracity of our knowledge (our beliefs) about the world based on our experience so as to potentially maximise our capacity to function and adapt under the broad principle of homeostasis. It is therefore a *functional philosophy* that sees thinking

and doing as being intricately connected, avoiding Cartesian and other forms of dualism; it is an *integrative philosophy*. There are three elements of pragmatism then that we must be mindful of: firstly, that *actions cannot be separated from the contexts within which they occur – they are situational;* secondly, that *actions are linked to consequences in ways that are open to change* – the *meaning* of an act(ion) can be very different in different situations and thirdly, *actions are built on the basis of socially shared sets of beliefs* (Morgan 2014a: 26-27).

Within the context of research therefore, pragmatism can be used as an organising framework within which a range of different approaches to inquiry can be situated (Dewey 1933/2013), exploiting the fact that research proceeds on the basis of 'warrantable beliefs' about the likely consequences of using one research design rather than, or in tandem with, others. Johnson and Onwuegbuzie (2004) argue for a 'contingency theory' approach to research design, claiming that:

> "…*quantitative, qualitative and mixed research are all superior under different circumstances and it is the researcher's task to examine the specific contingencies and make the decisions about which research approach, or which combination of approaches, should be used in a specific study."* (pp22-23).

Thus, both deductive and inductive approaches to the creation of knowledge (the formulation of beliefs) can be adopted, but importantly, pragmatism goes beyond these strictures, taking the view that:

> *"…under certain conditions, there are some proposed beliefs that we can neither establish nor refute under the deductive or inductive methods of testing and confirmation in the natural sciences. Such beliefs are, nevertheless, epistemologically justified and hence rationally acceptable because when adopted as true they directly or indirectly produce behavioural or epistemological consequences that provide for suitable adaptation under homeostasis…"* (Almeder 2007: 172. Emphasis in original).

This may appear to be a convenient route to the truth, effectively eschewing the principles of good science and robust methodologies – an almost irreverent

approach with shades of Feyeraband's anarchy. However, this is too simplistic. In order to adopt the beliefs in the manner referred to, there are a number of conditions that need to be met. These comprise the *pragmatic principle* (PP). Utilising the approach of logic, we can state that:

> *Pragmatic Principle* > A Person will be rationally justified in accepting a proposed proposition [*P*] as true if:
>
> > *i):* there is at that time no currently available conscious inference, inductive or deductive, from any other previously known or justified beliefs that would either confirm or disconfirm *P;* and
> >
> > *ii):* there is a distinct possibility that by accepting *P* as being true or likely to be so, it will produce consequences more likely to contribute to the enhancement of cognitive and/or moral utility than would be the case if we did *not* accept *P* as being true, or likely to be so.

In terms of adopting the pragmatic principle, most pragmatists can appreciate and would acknowledge the centrality of the inductive method in terms of belief formation. Hume's 'problem of induction' and infinite regress support the view that there can be no absolute certainties. Rather, we have differing degrees of justification in terms of our claims to knowledge/beliefs. Many of these claims are fairly robust, based on the available evidence.

The extent to which such beliefs are verifiable sits in a functional relationship with the *PP* itself. Verificationism, like most positions, has both strong and weak forms, although the general view would be that we cannot know the meaning of a proposition if we have no conception of what it would take to provide sufficient evidence to confirm it, i.e. previous/background knowledge. The world would be very different place if we did not believe/know that bacteria can cause illness and kill us, but that penicillin and other substances can kill bacteria. Whether these beliefs are absolute is not an issue from a practical perspective. Penicillin *works* (or at least for most people). From a philosophical perspective, a lack of absolutes in terms of verification may well be a problem, particularly if we want to try and avoid the 'tyranny' of (absolute) scepticism. However, pragmatism's primary concern is to

maintain the connection between thinking and doing – the two are inseparable (Dewey 1929: 1933; James 1968; Bernstein 1983; Morgan 2014b).

Many pragmatists would assert that the (ultimate) goal of science is not to provide 'True' statements about the world as it is to provide systems of belief/knowing that help us to understand the world as far as we need to in order to be able to adapt and function successfully. If, over time, those 'Truths' become more 'True' or predictive (Reichenbach 1938) and in their way enhance cognitive (understanding) (Putnam 1978; Rescher 2001) or moral (adaptive) utility (van Fraasen 1980), then so much the better. The issue in the here and now is that they allow things to *work* (Carnap 1950; Rescher 2003). As James (1907) remarked, it is in the 'fruits' of our beliefs that any 'truth' resides, not in their 'roots', clearly emphasising that the epistemic value of a belief/knowledge lies in its functional utility rather than any justification being predicated on its origins.

The issue of 'truth' is considered to be one area where critics of the *PP* have some leverage, arguing that for something to be labelled 'knowledge', it requires to be true. This however misrepresents the nature of 'truth', at least insofar as the pragmatists are concerned. *The* 'Truth' is an absolute standard and one that, following Hume's discourse on induction, can never be inductively established, and as there are similarly no deductive means of establishing the truth of induction either, we have infinite regression and no means of establishing the 'Truth'. If we require knowledge to be predicated on 'Truth', then we can only abandon the notion and settle for a 'lower' epistemological standard. This *radical pragmatism* (Brandom 2000: pp4-14) is often referred to as cultural relativism in epistemological terms. However, the pragmatists can to some extent side-step such criticisms as they believe that the fundamental concern is not about truth, but about *experience* and the *relevance* of the fact/observation to practical ends.

In the context of research activity, different modes of reasoning are often aligned to particular methodological paradigms. Deduction (objectivity/generality) and

induction (subjectivity/context), too often seen as discrete and isolated entities, are in fact circular and reciprocal. Adopting a broadly *deductive* approach, based on the principles of scientific method, would lead one to try to establish the 'Truth' of a hypothesis or to test a particular theory. If one were attempting to *develop* a new theory, an *inductive* approach would be adopted. However, it is perhaps axiomatic in the twenty-first century to accept that, ultimately, both lead to the other at some point. The distinction has been, and continues to be artificial, dualistic and atomistic. Pragmatism asserts that *either method* of reasoning is applicable depending on what it is you want to find out about – the ultimate test of the approach lies in its functionality. If deduction gets us to where we need to be in terms of functioning or adaptability, then this is fine; similarly with inductive approaches. The reciprocal nature of these processes is encapsulated well in the notion of *abduction* (Peirce 1867: 1905; Shank 1998; Haig 2008) where either process, in leading to a situation where something is unexplained or apparently inexplicable, allows the researcher to adapt and adopt new and different methods according to the criterion underpinning the *PP*. As we will see, MMR uses both sets of reasoning (Krathwohl 2004), moving from grounded results (observations/facts), through inductive inference to general inference, through to deductive inference to predictions to the particular. This explicitly cyclical process represents the MMR response to the inductive/deductive dichotomy and renders it sterile.

If we accept Hume's assertion that there is no way that induction can provide us with absolute justification for our beliefs (that all futures will be like all pasts or, more contemporarily, that all swans are white (Taleb 2007) which restates Hempel's famous 'Raven Paradox' (Hempel 1945a: 1945b), the implication is not that we should not continue to reason under such terms, nor that we should not accept the beliefs derived from such processes. Rather, that we should be prepared to accept that those beliefs do not amount to us *knowing* something about the world, but that they are useful beliefs and that they are subject to change in light of new evidence, particularly apposite in the context of the application of theory to practice (Wiley 2012). In this light, pragmatism offers the research process and scientific method new freedoms. In the context of mixed-methods research, the *PP* can be seen to have functional applicability.

The pragmatic paradigm is seen as *"…a deconstructive paradigm that debunks concepts such as 'truth' and 'reality' and focuses instead on 'what works' as the truth regarding the research questions under investigation. Pragmatism rejects the either/or choices associated with the paradigm wars, advocates for the use of mixed methods in research, and acknowledges that the values of the researcher play a large role in interpretation of results."* (Tashakkori and Teddlie 2003: 713). In this regard, James (1968) argued that even if there were no compelling evidence to support a belief (a claim to the truth of something), we have every right to accept it as being true, *if to do so were more likely to produce some moral value than not to do so* (p54). Simply because the current 'state of the art' in relation to science and its methods cannot provide us with definitive answers in relation to unobservable entities does not negate the value or the utility in accepting that they do exist, particularly when accepting such propositions as true helps us to understand something and to adapt more successfully. Dewey (1938) took a different view, arguing that unobservable entities should not be countenanced in this way, although many classical and contemporary pragmatists would concede, *"…that those things must be thought to exist when the theory asserting their existence is workable."* (Almeder 1986: 82). Hacking (1983) supports the view (against the anti-realists) that where an unobserved entity can be manipulated in a controlled way and used to bring about effects in other things, they must be real.

There are however three major (and recurrent) objections to pragmatism that some argue render its position untenable as a philosophy of and for science. Firstly, pragmatism has a clear commitment to support the evolutionary and changeable nature of ontology. This engenders an inevitable form of scepticism in relation to the scientific method and implies that there will never be any theory that is complete nor entirely predictive or that has absolute explanatory power, such that it could claim to be the Truth (Grayling 2009). If we accept this (and pragmatists do), then *"…the most we can know is what is best for us to believe in the light of our best current theory; but there is no guarantee that what is best for us to believe under current theory reflects in any enduring way the way the real world is."* (Almeder

1986: 83). Scepticism will therefore be inevitable and indefinite, raising once again the ‘spectre’ of the effects of induction, so effectively and powerfully articulated by Hume. James (1907) emphasised that the issue for pragmatism was not whether a thing was true or not, but what difference it would make if we were to believe it to be true, and to act accordingly?

A second objection relates to the view that pragmatism is merely an instrumentalist philosophy in that its primary and stated aims relate to the desire to exert control over the forces of nature, physical objects and human beings. All pragmatism can achieve it is claimed, is an *instrumental* rather than an *inherent* knowledge of such things. Human beings though are not merely physical objects – they are much more complex than this and therefore the methods of science cannot provide us with the necessary knowledge of them, particularly within the context of social systems (Bhaskar 1978). In defence, pragmatists would argue that if we approach the development of knowledge in such a way as to make ‘warrantable assertions’ rather than absolute claims to truth, then this could enable us to adapt and function more effectively. This being so, then we cannot but assume that the approach and the method is successful at least insofar as any current theory appears to explain that which would otherwise be inexplicable. If pragmatism achieves this, then it can be argued that the ‘scientific method’ of pragmatism *does* tell us something about the nature of the world and those things in it. Pragmatism is able to address the ‘incommensurability thesis’ – that *realist* and *constructivist* approaches are incompatible (Kuhn 1972).

A final major objection rests on a claim that some propositions about the world may in fact be *false*, but under the pragmatic maxim, it becomes best/easier for us to believe that they are in fact *true* even if these beliefs do not actually represent the real world in its True form. However, there is a counter from the pragmatist that contends that we can never actually know what the real world is, simply because of the problem of induction and the nature of infinite regress. Pragmatism does not (generally) claim that a theory is *the* theory; rather, its claims are more modest – that the way something is and the way it is described or explained – if this allows

us to understand something more effectively or promotes explanation that is superior to that which has gone before - then its moral and epistemological utility cannot be questioned, especially if other options leave us with unworkable solutions. In this regard, this final objection hints very strongly at a plea for certainty; that theoretical explanations must provide certainty, whereas approaching knowledge creation from a pragmatic perspective only claims to provide 'warrantable assertions' which are openly noted to be fallible. Pragmatism then situates itself in the realms of fallibilism and aligns itself to the 'correspondence' theory of truth. It also bases its position on the view that knowledge of the world is both real and independent of us, but that it is also socially constructed in that we come to know the world by virtue of our experiences of it. It thus avoids the extremes of both realism and anti-realism.

This approach to knowledge does however have the possibility to open the way for a rather sceptical worldview and one where there is little or no certainty evident. This runs counter to the claims of the positivists who argue that their (deductive) scientific method provides necessary certainties. Pragmatism also raises the issue of the *foundations* of our knowledge and beliefs. A core feature of much epistemology is that some knowledge is both *a priori and* essential. As noted in chapter one, a significant issue for many in social work is Flexner's claim that social work is not a profession (simply) because it does not have a discernible ('foundational') knowledge base. If therefore pragmatism posits a more relativistic notion of knowledge as 'warrantable assertions' or revisable postulates, *based on experience*, then how could social work claim to be a profession on the basis of its epistemological status, rather than other factors? How could anything claim to be anything in an absolute sense? The answer lies not in trying to refute Flexner's claim, but in accepting it and celebrating it, and asking whether social work (or any other human service profession for that matter) would *want* to be aligned to such a claim/requirement? Flexner has done more for social work than anyone could have imagined. The 'problem' (he) created for social work (as social work perceives it) is not about what was said, but about the way it has been interpreted and the almost overwhelming desire for the profession(s) to want to latch on to notions of certainty as a means of establishing and reinforcing credibility. If we accept that the scientific

method is flawed by reference to its modes of reasoning (which cannot logically verify anything in absolute terms), then it cannot just be social work that does not have a discernible knowledge base – nothing does. Medicine draws from a range of disciplines to inform its practices (physics, chemistry, neuroscience etc) all of which, by definition only possess 'truths' as good as the current standards of verification, justification and findings which exist relative to the next piece of more substantial and predictive piece of evidence.

Pragmatism therefore provides a framework within which apparently competing ideologies, assumptions and methodologies might all work together to address the issue of dealing with how we experience and come to understand the world. Its focus is on the nature of experience and the value of this to our capacity to 'flourish'. There is here a connection to the Aristotelian notion of 'eudemonia' (Knight 2007) as well as clear parallels to phronesis (Flyvbjerg 2001; Kinsella and Pitman 2012) in the context of research activity that will be considered in chapters seven and eight, as will the relevance of a new paradigm for social work/ research, taking the following formulation of a paradigm as a starting point: a paradigm is seen as:

> *"An organising framework that contains the concepts, theories, assumptions, beliefs, values, and principles that inform a discipline on how to interpret subject matter of concern. The paradigm also contains the research methods considered best to generate knowledge and suggests that which is open and not open to inquiry at the time."* (Powers and Knapp 1990: 103).

3.4 Mixed Methods Research

As discussed above and in chapters one and two, these various issues emanating from the persistence of particular views regarding the promulgation of knowledge can be seen to have been operating for many years and as a result, what constitutes knowledge is seen by some as being nothing more than a reflection of which method or approach to knowledge creation is regarded as superior. Thus, utilising Kuhn's terminology and using this as a convenient way to represent one of the major interpretations of how science operates within a framework of sorts,

paradigms (Kuhn 1970, 1996), defined as a *"…worldview, complete with the assumptions that are associated with that view"* (Mertens 2003: 139) can become mutually exclusive and reinforcing, and the so-called 'paradigm' or 'science' wars (Howe 1988; Gage 1989; Guba and Lincoln 1994; Tashakkori and Teddlie 1998; Labinger and Collins 2001; Morgan 2007; Teddlie and Johnson 2009) referred to above are testimony to the debates, reflecting the power of methodological assumptions and, implicitly, the importance of knowledge *per se* and issues of politics, fashion and convention (Bergman 2011). These themes are significant in that they are incorporated in broad measure in the *social constructivist* approach to science and inquiry (Berger and Luckmann 1966; Bloor 1976/1991; Latour and Woolgar 1979/1986; Collins 1985/1992; Latour 1992: 1999; Hacking 2000; Searle 1995: 2010), the 'movement' that evolved as a result of the challenges to the assumed pre-eminence of the hypothetico-deductive model and positivism.

These epistemological and methodological debates have centred upon the presumed pre-eminence of positivistic methodologies, their methods and underpinning ideologies over those of the more qualitative and interpretative types (Shadish 1995a: 1995b; Hughes and Sharrock 1997). Subsequently however, and as the sciences broadly conceived have broadened in their purview and the strengths and limitations of each approach relative to their respective foci have become apparent, we now see a spectrum of methodological approaches emerging with quantitative and qualitative methodologies acting for some as polarities (Newman, Ridenour, Newman and DeMarco 2003), with each having their classic texts as guides (Campbell and Stanley 1963; Cook and Campbell 1979; Brewer and Hunter 1989; Shadish, Cook and Campbell 2002; Maxwell and Loomis 2003; Tashakkori and Teddlie 2003; Brewer and Hunter 2006). This division is now seen as being less polarised, certainly within the post-positivistic tradition, and is now referred to as the *qualitative-quantitative interactive continuum* or the *Qualitative-Mixed-Method-Quantitative continuum* (Teddlie and Tashakkori 2009:28). According to Teddlie and Tashakkori (2009:88), there are now five identifiable paradigms each with something distinctive to say regarding methods, logic (deductive/inductive), epistemology, axiology, ontology, causality (linear/parallel)

and the extent of generalisability: *positivist, post-positivist, constructivist, transformative and pragmatic.*

The evolution of a mixed-methods paradigm (to utilise Kuhn's terminology) can perhaps be seen to represent the effects of the *practicalities* of research endeavour. Increasingly, researchers have noted the potential value inherent in all forms of data and recognised that, depending upon what it is you want to explore or explain, both numeric and other forms of data - text, artefacts - can contribute to 'scientific' enlightenment. Philosophical concerns as well as practical ones have also influenced such developments. According to Johnson and Onwuegbuzie (2004) *"[T]he project of pragmatism has been to find a middle ground between philosophical dogmatisms and scepticism and to find a workable solution…to many longstanding philosophical dualisms about which agreement has not been historically forthcoming."* (p18). Howe (1988) makes the point that *"…in practice, differences between quantitative and qualitative data, design, analysis, and interpretation can be accounted for largely in terms of differences in research interests and judgments about how best to pursue them. That differences can be accounted for in these ways should prompt suspicion about the need to posit different conceptions of reality and different epistemological 'paradigms' to account for the use of different research methods and should lead one to wonder about whether the quantitative-qualitative debate is just an invention."* (p10). Thus, the emergence of mixed-methods research (MMR) as a distinctive methodology has to some extent been inevitable and is characterised by the use of both quantitative and qualitative approaches to collect and analyse data, integrate findings, draw inferences (Tashakkori and Teddlie 2003; Johnson, Onwuegbuzie, and Turner 2007; Tashakkori and Cresswell 2007) and develop concepts (Bergman 2010).

Advocates for MMR located within a distinctive paradigm separate from positivism (Lincoln and Guba 1985; Smith and Heshusius 1986; Lincoln and Guba 1988; Guba and Lincoln 2005) refer to this as the *metaphysical paradigm* and argue that it is composed of three elements: ontology, epistemology and methodology. As a response and reaction to the 'positivist project' (Hughes and Sharrock 1997), the

metaphysical paradigm provided not only a rebuttal of positivism's ardent claims to being the only (methodological) arbiter of the truth [or to some, the Truth], but provided also a practical response to broader (implicit) claims regarding the nature of reality (ontology), the nature of knowledge itself and the means by which the world becomes known to us (epistemology) and the means by which this is achieved (methodology).

Morgan (2007) provides an interesting historical account of the 'science wars' and within this offers a useful typology of the shape of '(post-) positivist' and 'constructivist' paradigms and an account of Kuhn's postscript to *Structures* (1970). One of the issues considered relates to what extent does the combining of methods within research represent simply that (a combination), or does it go further and say something about the nature of *methodology* and, within that, something about the relationships (hierarchical or otherwise) between ontology, epistemology, methodology and axiology.

Thus, not only are differing methods underpinned by reference to the differing ideologies being advocated, but MMR also expects and accepts the utilisation and *integration* of a range of differing forms of data – numeric and narrative (broadly speaking), interaction upon and with the data (Teddlie and Tashakkori 2010) as well as the utilisation of all our senses and modes of establishing understanding. As Jung says:

> *"Ich unterscheide vier Funktionen, nämlich Empfindung, Denken, Gefühl und Intuition. Der Empfindungsvorgang stellt im wesentlichen fest, dass etwas ist, das Denken, was es bedeutet, das Gefühl, was es wert ist, und Intuition ist Vermuten und Ahnen über das Woher and das Wohin."* (Jung, 1936 p270).
>
> *["I distinguish four functions, namely sensation, thinking, feeling, and intuition. Sensation tells us that something exists; thinking tells us what it is; feeling tells us what its significance is for us; and intuition tells us where it comes from and where it is going".]*

Neither type of data in MMR is seen (necessarily) as pre-eminent, other than in direct relationship to its functionality and explanatory power relative to the topic under inquiry. This is perhaps well illustrated by a study undertaken by Trend (1979), often cited as an early exemplar of the power and utility of the MMR approach. Evident here is the use made of *triangulation.* Campbell and Fiske (1959) introduced this notion, referring to it as "multiple operationalism", where more than one method is utilised as a form of 'QA validation' in order to ensure that the explained variance is actually a result of the phenomenon under investigation and not a feature of the method itself. The convergence of findings where more than one method is used '…*enhances our beliefs that the results are valid and not a methodological artifact.*' (Bouchard 1976:268). This approach has been subsequently elaborated upon (Webb, Campbell, Schwartz and Sechrest 1966) and is seen as a particular strength within MMR. In the social work literature, Padgett (2009) is a strong advocate for the adoption of a mixed-method approach whilst advocating the use of a six-stage framework to orient the researcher and guide their practice, with similarities being evident in Cameron's 'Five Ps Framework' (Cameron 2011) within the field of nursing research. In addition, MMR aims to enhance the internal validity and trustworthiness of data (*inference quality*) (Tashakkori and Teddlie 2003: 2008) and external validity and transferability (*inference transferability*) (Teddlie and Tashakkori 2006).

3.5 A Rationale for the use of Mixed Methods

In terms of a clear rationale for the use of MMR, there are three main advantages to be considered. Firstly, MMR can simultaneously address both confirmatory and exploratory questions by using both quantitative and qualitative methods. As Punch (1998) notes:

> *'Quantitative research has typically been directed at theory verification, while qualitative research has typically been more concerned with theory generation. While that correlation is historically valid, it is by no means perfect, and there is no necessary connection between purpose and approach. That is, quantitative research can be used for theory generation*

> *(as well as verification) and qualitative research can be used for theory verification (as well as generation).'* (pp 16-17).

In this study, Q-method factor analysis is used as a quantitative means to *generate* theory via the emergence of impressions of meaning – the self-referent perspective on the topic at hand, whilst semi-structured interviews positioned after the completion of the Q-sort grids are used as the qualitative means to aid in the *verification* of theory. In this case and at this stage, theory refers to the ways in which professional social workers *define, produce, transfer, use, develop* and *disseminate* knowledge of and for their profession and their practice. Subsequently, both data sets can be used to generate theory regarding a functional epistemology for professional (social) work practice.

Thus, in this study I aim to utilise MMR to both generate and verify theory at different 'levels'. Merton's (1968) notion of a 'middle range theory' would perhaps be appropriate to depict what is being attempted here – to concentrate on a 'measurable' aspect of social life that can then be studied as a separate and specific phenomena (the ways in which social workers and other professionals obtain and use knowledge in professional practice) and to subsequently generate theory - the use of pragmatism within a new social work paradigm.

Secondly, MMR by virtue of its use of different methods, allows for the maximisation of '…*complementary strengths and non-overlapping weaknesses*.' (Johnson and Turner 2003: 299) with triangulation and complementarity being key in this regard (Greene *et al* 1989). Enhancement in this domain results from the interface and interplay of both sets of data (Krüger 2001) and given Q-methodology's claims regarding its focus on subjectivity through the use of both quantitative and qualitative means (statistical analysis and interpretative narratives), and its potential to respond to both *constructivist* and *constructionist* narratives (individual and/or shared perspectives) (Watts and Stenner 2012), this approach offers the potential to engage with the strengths of both statistical analysis and 'meaning making' through narrative interpretation. Finally, MMR both encourages and can accommodate a range of findings, including contradictory ones. According to

Teddlie and Tashakkori (2009), such divergence can lead to three outcomes: the transformation and reorientation of data types (QN/QL – QL/QN), inference quality audits and the design of a new study/phase of study. Whilst this may create some short-term inconvenience for the researcher,

> *'…in many cases the reappraisal and reanalysis required can reap long-term analytic rewards: alerting the researcher to the possibility that issues are more multifaceted than they may have initially supposed, and offering the opportunity to develop more convincing and robust explanations of the social processes being investigated.'* (Deacon, Bryman and Fenton 1998: 61).

Different inferences reflect different voices – utilising a MMR approach with Q methodology and its inherently mixed approach (Q-factor analysis and qualitative narrative accounts derived from quantitative Q-sorts) alongside semi-structured interviews (SSIs) allows the 'voice' of the numbers to be seen and the voice of the participants to be heard (Kirk and Reid 2002) through their Q-sorts and the SSIs. In this way, it is hoped that a resonant articulation of the place, position, structure and use of knowledge in contemporary social work practice can be seen, heard and responded to.

Chapter 4: Methods

4.1 Introduction

This chapter will provide an account of the quantitative and qualitative methods used and their associated rationales, with a detailed account of the processes of designing and implementing the study. Attention will focus primarily on Q-methodology - study design, ethical approval, participant selection, recruitment and involvement, Q-set design (concourse), Q-sort administration and construction, data collection methods and techniques, and details of the statistical and interpretive procedures of analysis. The chapter will also provide a brief and relatively non-mathematical exposition of correlation statistics and factor analysis, highlighting the similarities and differences between the two major forms of factor analysis – R-method and Q-method – before articulating the unique features of Q-method and its relevance to this study, locating this within the broader philosophical context of pragmatism and the methodological paradigm of mixed-methods, supported by reference to the use of post-Q-sort semi-structured interviews.

In relation to the qualitative methods utilised, the chapter will discuss the nature of the post-Q-sort semi-structured interviews and provide a rationale for these as an adjunct to the use of factor analysis as the main investigative tool. It is perhaps worth noting that the methodological decision to use a mixed-methods approach with a predominantly quantitative element supported by the use of more 'traditional' qualitative methods in the form of semi-structured interviews was based largely on the nature of the inquiry itself and a recognition of the need to effectively handle large quantities of data. In addition, the claims of Q-methodology lent themselves well to the aims of the research, particularly so *in the context of being able to use interviews to complement Q's powerful, but 'clinical' statistics* in the exploration of an inherently 'interpretative' phenomena – human subjectivity as represented by an individuals self-referent perspective on a particular topic. Thus, it was not a decision about which method was 'better' than the other – rather it was to recognise that to attempt to highlight and come to some understanding of 'subjectivity' in relation to professional knowledge could be well (if not, better) served by the application of the

most powerful techniques available *in tandem*. This was therefore a decision based on both an appreciation of the significance of the (mixed-methods) paradigm and that of the potential of both quantitative and qualitative methods to make sense of a complex topic. To have used one approach instead of the other would have represented a lack of understanding on my part as to the potentials inherent in each and served simply to perpetuate the myth that some ways of doing research are better than others, even where those other methods have not been tried.

4.2 Quantitative Methods: *R* and *Q* Method Factor Analysis

4.2.1 *R*-Method Factor Analysis

Factor Analysis (FA) is a multivariate statistical method, common in psychological and educational research, although its use in other cognate disciplines in increasing (Pett, Lackey and Sullivan 2003), used to explain and describe variability amongst observed and correlated variables (correlation coefficient = *r*) and to identify the presence of potentially *unobserved* or *latent* variables referred to as 'factors'. According to Kline (1994:5) *"…a factor is a dimension or construct which is a condensed statement of the relationships between a set of variables."* When encountering a large set of observations or dealing with a lot of variables, the question arises as to how these might be parsimoniously represented and, within this, are there any underlying and unobserved features that might help us account for the observed associations (correlations)? The statistical procedures in R-method Factor Analysis[2] are designed to determine whether or not there are any distinct constructs that could account for the observed correlations. These unobserved constructs – latent variables – are referred to as *factors*, and the strength and direction of influence of the *common factors* is indicated by the factor loadings, represented by the correlation coefficient (*r*). Factor analysis (of any sort) is a data-reduction technique.

[2] The prefix 'R' is nowadays generally applied in discussions regarding factor analysis in order to distinguish it from its other variants, specifically in this case, Q-method factor analysis (Stephenson 1935). The prefix 'R', even though capitalised, simply represents the mathematical symbol for the correlation coefficient – *r*. The correlation coefficients are denoted by *r,* whilst the *factor* that is subject to *analysis* is the unobserved or latent variable.

To illustrate the (historical) significance of revealing the unobserved, one of the originators of factor analysis, Charles Spearman (Spearman's rank correlation coefficient or Spearman's *rho*) noticed that school children that did well on tests of verbal reasoning also did well on tests of mathematical reasoning and other forms of problem solving activity. In order to explain this, an underlying or latent variable, the *general factor* of general intelligence was identified, now referred to as the 'g-factor' (Spearman 1904). In using correlational techniques, Spearman was able to 'see' that which hitherto had remained unseen – 'general intelligence'. Similar tests exist and function in similar ways, notably Pearson's *r* (Pearson 1901: 1913; Pearson and Heron 1913) and these represent not only significant *statistical* achievements, but also significant *theoretical* achievements in that inherently conceptual, 'invisible' and subjective entities were given shape, voice and explanatory power. Such apparently 'hard' statistical techniques can therefore be seen to yield to the requirements of researchers in exploring areas that traditional views around both descriptive and inferential statistics might otherwise see as unlikely. By modifying their application and using sensitivity in interpretation, it is possible to make important inferences regarding unobservable and 'subjective' entities using 'objective' methods. In the area of attachment research for example, there is the notion of the 'internal working model' – a theoretical template in our heads that acts as the benchmark against which we judge the nature and quality of relationships with other people (Cassidy and Shaver 2008). Notwithstanding advances in cognitive neurosciences and f/MRI scanning techniques, no one has yet 'seen' the internal working model – its presence is inferred based on a theoretical construct predicated on the functionality of behavioural responses in interpersonal settings and which, when applied, has useful explanatory powers. The shape and form (in the sense of its function for a particular individual) may well be revealed more clearly by the application of factor analytic techniques. The latent variables (influences) of the particular individuals 'internal working model' on their behaviour could be revealed by the application of factor analytic techniques, particular as the *Q-sorting method* (see below) has already been used in attachment-based research (Waters and Deane 1985), although this approach uses Q-sorts in a R-method configuration whereby pre-defined, *a priori* categorisations are used (Block 2008) to *test* hypotheses regarding trait-based behaviours. This however exemplifies well how the creative use of particular methods, particularly

those not perhaps readily associated with subjective human qualities, can provide interesting inferences regarding subjective qualities and contribute to theory development and application. Other subjective states readily observable through the application of factor analytic techniques are noted below, with particular emphasis on Q-methodology as a factor analytic variant.

Typically, factor analysis proceeds to identify latent constructs (factors) from within a set of variables, often those that relate to the identification or measurement of particular traits or abilities (speed or response to stimuli; number of items recalled in a memory test). Importantly, this represents a significant departure from the determination of what is classed as a variable in Q-method factor analysis, as will be seen below. When processing data using (R) factor analysis, there are two broad approaches available, each dependent for their rationale on the paradigmatic and methodological assumptions of the researcher. *Confirmatory factor analysis* (CFA or 'restricted factor analysis') is used when the underlying factors are assumed to be present – that is, the analysis seeks to confirm their presence or otherwise and is therefore operating on the basis of *a priori* assumptions about the type and number of factors and therefore follows an essentially *deductive* approach (Kline 1994:10). In this regard, CFA functions as a form of structural equation modeling (Schumacker and Lomax 2010; Brown 2015). In contrast, *exploratory factor analysis* (EFA or 'unrestricted factor analysis') (Fabrigar and Wegener 2012; Ruscio and Rosche 2012; Osborne 2014) adopts a more *inductive* approach in its application (Kline 1994: 9; Fabrigar *et al* 1999; Haig 2005; Williams, Brown and Onsman 2010) and makes no *a priori* assumptions; rather, its position is, as the name suggests exploratory and analysis proceeds on the basis of the identification of factors suggested by the emergent data and in this regard, is essentially heuristic. In addition, it aims to exploit the underpinning principles of *abduction*, exploiting an important precept of scientific inference referred to as 'the principle of the common cause' (Haig 2005: 303), reasoning from *factual premises* to *explanatory conclusions* (Ibid: 304) of which there are a number of subtle but distinct forms (Schurz 2008), although for our purposes there are really two: *habitual* abduction and *creative* abduction. In the former, we make inferences towards an explanatory hypothesis by reference to a general rule or 'law', or to past experience. In the latter, there is no benchmark or previous experience upon which to draw or against which

to compare. Both types follow the same algorithmic pattern, but the processes of the latter demand more attention and more creativity than the former. These types will be considered further in chapter 7.

In typical R-method or *by-variable* factor analysis (c/f Spearman and Pearson), standardisation (as a form of statistical reductionism) allows for easier direct comparisons, and is achieved relative to the entire population of scores *for a single variable,* particularly useful where different units of measurement are being used. The final standardised score (the *Z*-score) is the mathematical expression of the distance between a particular absolute score and the mean of the whole measured sample, expressed as a proportion of the number of standard deviations. Standardisation serves to disassociate the scores obtained from specific individuals by reference to the arithmetic mean. Thus, the process of standardisation serves to highlight latent variables that may be operating unseen within and across the many associations captured within the (initial) correlation matrix. This leads to the emergence of a relatively small number of latent variables (the 'factor' in factor analysis), thereby offering the possibility of a simplified explanation of the myriad associations possible, as *"…the sheer size of the matrix…is a formidable obstacle to discerning the patterns readily disclosed by factor analysis. All that factor analysis does is to lend statistical clarity to the behavioural order implicit in the matrix by virtue of [similarity or dissimilarity]."* (McKeown and Thomas 1988: 50). However, the *reductionism* inherent within the standardisation procedure, whilst admirable, necessary and of intrinsic value in the pursuit of the identification of latent variables within the context of 'trait-based' analyses, actually serves to eradicate anything of the *individual* from the data – that is, (R) factor analysis reduces data about or from any one individual to information of a somewhat *generalised* and aggregate sort, useful for the derivation of laws and averages from statistical aggregation, but of no value in relation to telling us anything about the individual or the reasons for their choices or actions.

This is where the 'inversion' of R-method factor analysis into Q-method factor analysis provides us with the means of applying powerful correlation techniques to the identification and exploration of latent variables that represent subjective states, the unit of measurement not being speed of response or some other categorical

entity, but a 'new' unit of measurement - 'psychological significance' (Stephenson 1953). However, the mathematics of R-method and those of Q-method are virtually identical. Any differences in terms of statistical specificities are more often perceived than real and do not reflect any meaningful difference in terms of technical specificities. The main concern within this thesis is with the *principles* and *products* of factor analysis, not with the statistical means by which such principles are arrived at or the products realised. By virtue of the similarities in the statistical methods used (the 'how' of factor analysis), as opposed to what it is that is analysed (the 'what' in factor analysis), it could be argued that there is essentially an inherent combination of statistical processes, whether it be R- or Q-method (Danielson 2009). However, mathematical complexities notwithstanding, they are nonetheless evident and are covered in detail by Adcock (1954), Harman (1976), Rummel (1970), Kim and Mueller (1978a: 1978b), Brown (1980), Fabrigar and Wegener (2011), Osborne (2014) and Babones (2015).

4.2.2 *Q*-method Factor Analysis[3]

As a particular methodological approach, Q-methodology first appeared in 1935 following the work of William Stephenson who was by 'trade' a physicist. In essence, Q-methodology is an adaptation of Spearman's factor analysis technique (Spearman's *r*), the development of which and other technical matters were referred to above. One of Stephenson's early insights was to recognise that subjectivity[4], in the sense that this refers to *my view on something as opposed to yours*, is readily observable by reference to statements we make about certain topics or the preferences and behaviours we display relative to them, and as such was amenable to measurement and subsequent analysis. Such observable preferences, functioning as *beliefs* about the world and the best ways to adapt and function within

[3] In order to avoid any charge of inconsistency, the phrases 'Q-method factor analysis', 'Q-methods', 'Q-methodology' or simply 'Q' will be used interchangeably to denote reference to Q-method factor analysis. The particular choice of phrase will be determined by the syntactical context.

[4] The word 'subjectivity', when used in the context of experimentation or other forms of inquiry is often connoted to possess inherently unreliable characteristics. However, the Shorter Oxford English Dictionary (2007) defines subjectivity as '*The quality or character of being subjective, esp. the ability or tendency to present or view facts in the light of personal or individual feelings or opinions.'* This is exactly what Q is aiming to measure/display. The negative connotations of subjectivity as representing unreliable testimony or statements that cannot be objectively regarded or as being 'unscientific' are, in this context, themselves unreliable, so for the purposes of this thesis, the SOED definition will apply.

it, influence how we behave. They can be very powerful motivators and can therefore be seen to operate upon our environments in myriad ways. However, the apparent lack of effort and interest to isolate and measure subjective opinions from a broadly positivistic perspective was seen by Stephenson to represent a limitation on those methods and approaches, rather than anything inherently 'unmeasurable' or 'unscientific' regarding subjectivity itself as a phenomenon (Penrose 1975). However, largely because of the powerful discourse represented by behavioural psychology at the time (Watson 1913; Skinner 1945; Zuriff 1986), those aspects of the human condition relating to notions such as 'the mind' or 'consciousness' (Blanshard and Skinner 1967) were often regarded as unworthy of study in any serious way, and certainly not in any 'scientific' way. The development of Q-methodology represented Stephenson's "*desire to bring a scientific framework to bear on the elusiveness of subjectivity."* (Coogan and Herrington 2011: 24). As a result of these efforts, Q-methodology was developed which:

> *'...encompasses a distinctive set of psychometric and operational principles that, when conjoined with specialised statistical applications of correlational and factor-analytical techniques, provides researchers (with) a systematic and rigorously quantitative means for examining human subjectivity. From the standpoint of Q-methodology, subjectivity is regarded simply as a person's point of view on any matter of personal and/or social importance. Corollary to this conception is the twofold premise that subjective viewpoints are "communicable" and always from a position of "self-reference". Thus construed, subjective communication is amenable to "objective analysis" and understanding provided that the analytical means for rendering such communications objective do not in the process destroy or alter the self-referent properties of such communications. Central to Q-methodology is a concern – fortified by operational and statistical specificities – to ensure that self-reference is preserved rather than compromised by, or confused with, an external frame of reference brought by an investigator in seeking to measure subjective phenomena.'* (McKeown and Thomas 1988: 7 – emphasis in original).

Stephenson understood the nature of the principles underpinning and relating to behavioural psychology and argued that subjectivity was not simply something internal to the mind, but that it was visible as an activity in the same way as any other *operant behaviour*. The only difference was the perspective from which these things were studied. From the behaviourist point of view, an *operant behaviour* is one that is a): emitted spontaneously and b): has some form of relationship with/impact upon its immediate environment which makes it meaningful. Subjectivity is meaningful to the individual (by definition) and is not just an aspect of mind, but something that can be displayed/emitted as a preferential or preferred way of behaving and can therefore be seen to have an impact on its immediate environment. It is therefore no different to the classifications afforded to other operant entities. Brown sums this up well when he states that:

> "*Fundamentally, a person's subjectivity is merely his own point of view. It is neither a trait nor a variable, nor is it fruitful to regard it as a tributary emanating from some subterranean stream of consciousness. It is pure behaviour of the type we encounter during the normal course of the day."* (Brown 1980:46).

Q-methodology is regarded as one of the main approaches for studying issues relating to human subjectivity and its communicability on a specific topic or range thereon. Subjectivity in this sense is operationalised as referring to an individual's point of view, a *self-referent perspective*. This means that views on an almost limitless range of topics become amenable to rigorous, reliable study and analysis, using both statistical techniques (factor analysis) and other more traditional methods of inquiry associated with the qualitative tradition, such as semi-structured interviews and focus groups. Subjectivity now becomes something that has a shape and form and is something that can be *seen*, measured and analysed using powerful statistical and other techniques (Watts 2011) in the same way that Pearson used these to make visible 'general intelligence'. The main purpose in developing Q was to provide a means by which subjectivity could be reliably captured, scientifically and experimentally investigated and its characteristics made visible and held constant for the purposes of comparison. In order for this to take place, and in order to be able to appreciate not only the relevance and significance of Q

as a method, particularly as it relates to this study, it is important to consider some of the conceptual issues underpinning its genesis.

In Q-method factor analysis (Q), the aim is to *emphasise* the 'holistic' and individualised nature of the findings within the data and to reflect the individual's point of view – their *self-referent perspective*, on the topic being explored. Thus, the use of typical R-method factor analysis, providing aggregated data, would appear to deny us the very thing we are looking for in this study – individual preferences and viewpoints rather than just statistical significance and aggregated generalisations. That said, the power inherent within such statistical techniques as correlation statistics is inherently valuable in identifying latent variables relating to self-reference and individualised viewpoints on important topics, so there is no sense of denying the relevance of factor analysis; rather, recognising that its strength emerges in a different form when *people* are regarded as the variables and not their traits or abilities, we are able to conceive of correlation as being able to represent our data needs when utilised differently. We therefore measure something different when using Q-methods – hence the notion of 'inverting' R-methods to create Q-methods – shifting from *by-variable* analysis to *by-person* analysis. The inversion is in how we treat the data – what we regard as variables, what we measure and subsequently, what we interpret.

> *'Factor analysis... is concerned with a population of* n *individuals each of whom has been measured in* m *tests or other instruments or estimates. The* (m) (m-1)/2 *correlations for these* m *variables are subjected to... factor analysis. But this technique...can also be inverted. We may concern ourselves with a population of* N *different tests (or other items), each of which is measured or scaled relatively, by* M *individuals. The* (M) (M-1)/2 *correlations again can be factorised by appropriate theorems.'* (Stephenson 1936a: 344-345).

Q-method factor analysis treats the data in a different way. The factor analytical processes of R-method are still used, but the way in which the data is processed is changes. As a result, a different *form of data* is obtained, as it is the range of items

themselves that are measured, rated or scaled in some way *by a collection of individuals*. The meanings of a range of heterogeneous items (a range of statements on a particular topic in this case) can be made homogeneous relative to the individual and the items significance or meaning *to them* can be ascertained. What emerges is a rating of the subjective meaning or 'psychological significance' of the item(s) to that individual (Burt and Stephenson 1939: 276).

This so-called 'inversion' of R-methodology to create 'Q' is simply that one's attention shifts from the *columns* of data in a correlation matrix (all the scores for everyone in relation to response speeds to visual stimuli for example i.e: one variable) to the *rows* of data - each person's score(s) across the *full range of variables* (Kline 1994:78), first undertaken by the educationalist and statistician G.H. Thompson (Thompson 1935). Stephenson utilised this shift in analytical focus – *pursuing correlations between persons rather than between tests or variables* - and developed it. Thus in Q, *the participants are the variables*, *and the traits, tests, abilities or items become the sample or population.* This is *by-person* factor analysis in contradistinction to *by-variable* factor analysis (R-method factor analysis). This provides a data set that tells us what the individual subject's responses are to *all the items* (the range of statements – referred to as the *concourse of statements*), and therefore provides us with a holistic view on and of a topic, rather than a data set that just provides us with information on isolated entities. We therefore achieve a *holistic* view of something – a viewpoint and a relative position on a topic. In 'R' we get a typified/standardised measure of the population samples response time to a particular test – in 'Q' we get a standardised measure of each individuals view/position relative to a particular issue/theme etc. As Watts and Stenner (2012) point out, *'...Stephenson is intent on using his new method as a means of systematically and holistically identifying different types of people, or different types of mood, of <u>viewpoint</u>…across different life domains and contexts'* (p14 – emphasis mine).

This is the essence of 'Q' – instead of subjects being passively measured on a range of different variables assessed by reference to different units of measurement, they are presented with stimuli – a set of heterogeneous items that

represent the collective view on a topic - which *they act upon* by rank-ordering them in a way that is meaningful (psychologically significant) *to them*, thus rendering the items homogenous relative to their own first-person perspective. This first person or subjective perspective is also the unit of quantification or measurement. We can therefore see the shift from *by-variable* factor analysis ('R') to *by-person* factor analysis ('Q') as representing little more, statistically speaking, than a shift from an analysis of the *columns of data* to an analysis of the *rows of data* – representing an approach to holism. However, this shift was hard-won and reflected considerable debate between adherents of R-method factor analysis and Stephenson (Burt and Stephenson 1939; Burt 1940). The main issue was that of how the transposition between and across columns of data to the rows could be managed given that each column of data in R-method was based on different units of measurement – speed of response; number of items recalled, etc - different responses to different things, so a straightforward shift would not allow for direct and holistic comparisons. Thus, the data gathered for R-method could not be used for Q-method as a means of providing a holistic perspective on any topic: as the units of measurement were not consistent, so the outcomes would not be coherent – '*Transposing R methodological data matrices for Q analysis is statistically dubious.'* (Watts and Stenner 2012: 15). It was therefore necessary for a new form of data to be developed that could be processed using the inverted R-technique (Q). R-methodological data is obtained when a sample of individuals have been subjected to testing across a range of different tests. In Q, data is obtained when a *range of different items (or tests)* are themselves scaled or rated by the sample of individuals. The *items* are subjected to measurement rather than the individuals.

> '*If, then, any list of heterogeneous measurements or estimates can be arranged in an order of some kind, or in a scale...[in terms of] their...significance for the individual, they may be held to be made homogenous with respect to that individual. This last sentence opens the way for many applications of Q-technique. The same procedure holds for any heterogeneous material whatsoever.'* (Stephenson 1936a: 346-7 in Watts and Stenner 2012: 15).

The ‘new’ form of data to which Stephenson alluded was based upon the utilisation of a new unit of measurement to which we have already referred – ‘psychological significance’, accessible though the rank-ordering of stimuli from a subjective or first-person perspective (Burt and Stephenson 1939: 276). This approach yields a data set where each row of data is made up of the subjective evaluations of each item by each individual relative to each other and made *homogenous* because of that. Each row is then treated as a distinct *gestalt* entity.

However, as with R-method factor analysis, Q-method factor analysis is still concerned with the identification of the degree of association or *correlation* between *n* variables, where the higher the correlation, the greater the agreement/alignment/association between these. Having obtained a (high) number of correlations, one has to make these patterns meaningful and in order to do this, the scores are *standardised* as they are in R-method. However, in ‘R’, such standardisation is achieved relative to the entire population of scores *for a single variable*: in ‘Q’, standardisation is achieved relative to the entire population of scores *for a single person* such that people are the variables, not their traits. The single unit of quantification here is that of ‘psychological significance’ and is viable as a measure as every score in the ‘Q’ matrix has been made relative to the individuals own view on the topic at hand – *‘…relative to the individual and to himself [sic] alone.’* (Stephenson 1936b: 208). In addition, the utilisation of a prearranged frequency distribution (the ‘Q Sort’) serves to further enhance the standardisation process. By using a range of dimensions that define and standardise the nature of psychological significance and by applying correlation statistics to the rows of the matrix, it is possible to establish the degree of agreement/disagreement (or whatever one chooses to represent ‘psychological significance’) and analyse this. The means by which the subject’s views are scored/rated is determined by reference to the topic at hand and analysis proceeds across and between the entire set of rankings across all the individuals involved. In this way, direct comparison is possible between each of the individualised Q-sorts. By then applying (Q-) factor analysis to the initial correlation matrix, we can reduce the many and varied impressions (correlations) to a smaller number of factors (latent variables) which, when analysed interpretatively, can highlight and make visible underpinning

themes, issues and trends relative to the topic of inquiry derived from the collection of statements on that topic.

Of particular import is the capacity of ‘Q’ to highlight ‘marginalised’ viewpoints, particularly as these may well be embedded deep within the latent variables themselves. Brown (2006) offers an interesting example of this when he recounts how a particular Q-sort, scoring fairly low statistically had much greater *psychological significance* when it was realised through interpretative/thematic analysis that this particular individual’s capacity to influence the views of those others taking part in the study (part of the same community) was very strong because of the *power* that person held over decision-making processes (the latent variable). The (Q) factor analysis is looking for groups of persons (as it is they that are the variables in ‘Q’) who share the same or similar views on a broad topic. This particular means of data reduction and collection does allow for heterogeneous items (in the form of statements in this case) to be rendered *homogenous* relative to a particular topic – the homogeneity being representative of latent variables that are common and shared to varying degrees in relation to the chosen topic(s).

By reference to the Q-sorting technique (see below), a participant is asked to rank-order a number of statements (the Q-set) in a way that is in some way meaningful or otherwise *to them* – they are encouraged to articulate a particular point of view – *their point of view*. This being so, that view (being theirs, and not yours or mine) is *subjective* and is emitted spontaneously. The concourse of statements represent elements of a particular topic or discourse that one wishes to explore in terms of others’ views on this. There is no attempt to impose *a priori* meanings on people’s views, and one may legitimately insert statements into the concourse that actually reflect the ‘real-world’ and real issues of the topic under consideration. It is up to the participant to decide to what extent a particular statement has meaning for them and how they therefore wish to represent it. The particular currency, popularity or otherwise of a statement will only be manifest in relation to the particular participant, and then only in relation to the other statements within the concourse. It is therefore unlikely that any influence could be directly inferred from the external ‘potency’ of a particular statement. The extent to which a participant impresses his or her

particular view on a given statement represents the degree of *psychological significance* they and only they imbue it with.

> *"[t]he supposed a priori meaning of the statements does not necessarily enter into the Q-sorter's considerations: participants inject statements with their own understanding."* (Brown 1997: 11).

The form or shape a particular Q-sort ultimately takes provides us with an account or a picture of an individual's unique perspective on that topic, and from this we can see how these meanings might legitimately be seen to have influence on both thought and behaviour. How I view certain things influences how I act on the environment – if I hold the view that it is safer to walk on the left-side of the road, rather than the right-side (a subjective view – mine), then this will influence how I actually behave. In this way, my subjectivity (my self-referent position) can be modelled using the Q-sort and from this, we can determine how this subjectivity influences how I behave. In the context of this thesis, Q presents itself as a particularly pertinent approach as the self-referent perspectives it aims to identify and articulate relating to knowledge of and for professional practice correspond well with the broader philosophical underpinnings represented in earlier chapters relating to ontology and the function of knowledge as a *belief* or representation of the world and how these shape our engagement with it (Schopenhauer 1859). If, through my chosen preferences I assert that I think that *X* instead of *Y*, or believe *A* rather than *B*, these assertions are predicated on knowledge forms I possess, and mediate my relationship with the world. We can therefore evidence a high degree of consonance between the role and function of epistemology in relation to ontology and the particular methodology of Q.

However, as Stephenson points out, Q-methodology and the method of Q-sorting does not ask the subject "*To introspect, or to turn on his* [sic] *stream of consciousness: instead he [is asked to express] his subjectivity operantly, modelling it in some manner as a Q-sort. It remains his viewpoint."* (Stephenson 1980:501). It is therefore an objective manifestation of a subjective perspective and does not seek to distort the natural engagement of the person with his own views. The *operant subjectivity* to which Stephenson refers relates to the participant expressing

their subjectivity (their view on a topic) through operating on a series of items (the Q-set) in a way that is reliable, scientific and undertaken in response to specific conditions of instruction and under experimental-type conditions. Q-methodology thus allows the first person or *subjective* perspective to be studied *"…with full scientific sanction, satisfying every rule and procedure of scientific method."* (Stephenson 1953: 25). As a result, the critique of the positivist method against the scientific study of subjectivity was challenged and seen to be unsupportable.

One of the key differences between R-Factor Analysis and Q-Factor Analysis is its exploratory nature. The methodological approach of Q allows for individuals to self-categorise on the basis of the Q-sort they ultimately produce. The ethos of Q is discovery *after the fact* or *a posteriori* – there is no hypothesis to be tested at this time. It is in fact the rank ordering and classification of statements on a particular topic by the participants that generates the focus of the subsequent inquiry and exploration. The researcher has no idea how the Q-sorts will be configured – in reality these could cover an infinite number of interpretations, and not until the data is analysed do we know what it is we are dealing with. There are no theoretical assumptions imposed on the participants – how statements are categorised reflects their own first-person perspective ('psychological significance') and each of these, and, where relevant, the collective representations of the *P*-set become visible. On the basis of these, the researcher may then begin to theorise on what is contained within the Q-sorts.

It is not in the nature of Q-studies to aim to compare differing groups, certainly not at the outset. *"[I]ndividual Q studies are probably better suited to the exploration of specifics; the viewpoints of specific people, specific groups, specific demographics, or the viewpoint at play within a specific institution. This means that most Q methodological research questions are likely to retain a relatively strict and narrow focus."* (Watts and Stenner 2012: 54 – emphasis in original).

After the Q-sorts have been produced, it may well become apparent that there are in fact distinct groupings within the sample, but these will have emerged on the basis of individual subjective views on a particular topic. There has been no attempt to test pre-formed group identities or viewpoints; rather, the research question and its exploration through the application of a rigorous methodology have allowed

forms/viewpoints to emerge naturalistically (Brown 2008). From this, the researcher can begin to explore any themes that emerge and apply theoretical constructs in ways that seek to explain the configurations in new and exciting ways. At an individual (constructivist) level, the Q-sort is seen as an expression of an individual viewpoint, whilst the interpreted factors from all participants reveal the main shared (constructionist) discourses operating within the data at a meta-theoretical level.

However, having clear aims regarding the nature of the research and articulating these clearly and precisely through the research question is essential. Curt (1994) suggests that Q research should be focused on three elements: representations of a subject matter; understandings of it and conduct in relation to it. However, these should ordinarily be researched as clearly delineated categories. An alternative triadic schema put forward by Watts and Stenner (2012) involves causes/reasons; definitions and reactions, responses or policies (p55), although one can construct unique categorisations. The point is that any study has a clear focus because otherwise there is a danger that the concourse statements lack coherency and therefore risk confusing participants and limiting their ability to respond meaningfully in direct relationship to the research question.

The development of Q as a means of allowing researchers to understand subjectivity and to model and measure its impact was also heavily influenced by the writings of one of the early American pragmatists, William James. It was James (1904) who advocated that consciousness should be properly regarded as a function or an activity, rather than as some form of metaphysical entity *per se*. He argued that to see objectivity and subjectivity as separate and distinct entities was to conflate both of these above what he referred to as the 'pure experience' (James 1912). James argued that inherent within any experience there were (necessarily) both objective and subjective elements: going for a walk involves the objective experience of walking, of feeling the wind on your face – the same walk confers subjective experiences – enjoyment, exhilaration, tiredness. Each of these is in fact necessary for the other to take place. The objective element is characterised by *object reference* (the walk itself and the physical acts involved which can be viewed from a third-person perspective) and the subjective element, characterised by *self-reference* which only I can refer to (Luhmann 1990). As an approach, Q succeeds

in integrating subjective and objective states and is able to provide the means to represent these externally and holistically, thus avoiding the (atomistic) dualism inherent in more positivistic and reductionist approaches that ignore complementarities (Brier 2000). In relation to Q-methodology, the subjective element is the ordering of statements to provide 'my' impressions[5] on a topic – this is only available to me and is therefore transitive and immediate. However, the finished Q-sort is available to another person and is therefore substantive, permanent and objective. The subjective experience has produced the object – and a third person studying this object could engage in his or her own subjective experience when reflecting on it, thereby generating a new transitive process and experience, *ad infinitum*. In this way, James's ideas, moving away as they do from Cartesian Dualism and the mind/body – subject/object split, emphasising the integrative nature of our experiences and their symbiotic nature, provides both a platform and a theoretical rationale for a more integrative methodology. James himself saw the significance of what we can refer to as a more *pragmatic* approach to *inquiry* and the methods to be used when he notes: *"I seem to read the sighs of a great unsettlement, as if the upheaval of more real conceptions, and more fruitful methods were imminent, as if a true landscape might result, less clipped, straight-edged and artificial."* (James 1912: pp21-2). Here it is possible to see the beginnings of some of James's later thoughts and ideas about pragmatism and the very 'real-world' approach to inquiry and the utility of such an approach that both he and others advocated for (see Dewey 1929).

Thus, the structure of Stephenson's methodological approach has a degree of consonance with the ideals of pragmatism and its intentions of enhancing the relevance of experience and its function in relation to successful action leading to better engagement and control over the environment.

[5] Q-methodology is referred to as a method of *impression* rather than a method of *expression.* The distinction is to be made between conventional psychometric tests, scales and measures that pre-define a trait or meaning and aim to have the participant *express* this *a priori* determination through the medium of the particular test and analyse this using R-method factor analysis. In Q-methods, the Q-set (as the equivalent of the test or scale referred to earlier) provides a medium through which the participant can *impress* their own meaning and viewpoint on an item, which is then analysed using Q-method factor analysis. As a method of impression, Q has much in common with psychometric tests like the Rorschach inkblot test (Rorschach 1921/1942) for example.

4.2.3 An Illustration of the Range of Applications of Q-Methodology

This section provides an overview of a range of Q-methods studies that have been undertaken and published. It is not intended to be definitive; rather, it aims simply to illustrate not only the robustness of the method in terms of the range of topics to which the application of Q is seen as appropriate, but also that *subjectivity* is indeed able to be defined, observed, measured and discussed in meaningful ways.

There is a wide range of studies utilising Q methodology from a diverse range of disciplines. The essence of all of these lies in the way Q is able to uncover aspects of human subjectivity hitherto regarded as being too difficult to capture and record. In this section, I provide an overview of a range of published studies that serve to illustrate not only the functionality of Q in relation to subjectivity, but also the ways in which the approach itself says something about the value of mixed-methods research and the integration of both quantitative (QN) and qualitative (QL) approaches and the contribution it can make to scientific progress.

Brown (1980) provides a detailed account of Q methodology, offering what to many is regarded as the 'standard' [and seminal] work on the topic. Within the paper, Brown outlines the processes and procedures for undertaking a full-blown Q study with the mathematical analyses being undertaken by hand. Amin (2000), Cross (2005), Watts and Stenner (2003; 2005) and Coogan and Herrington (2011) all provide accounts of the general applications of Q in the context of exploring differing forms of subjectivity – attitudes, opinions and perceptions across both clinical and non-clinical settings. Combining the strengths of both QN and QL methods, it is claimed that Q provides more in-depth analysis of complex issues of subjectivity. Stenner (2009) advocates the use of Q as a generalised constructivist methodology whilst Watts (2009), and Grover (2014) focus on the uses of Q in making objective that which is inherently subjective. However, Dziopa and Ahern (2011) in their systematic literature review on the applications of Q found that there were still many misconceptions about its use, particularly in that some researchers still saw it as a quantitative approach rather than a means for systematically assessing qualitative data. Goldstein and Goldstein (2005) focus on the use of an individual case in the

context of individual therapy, highlighting the robustness of Q even in single-case designs. Barbosa *et al* (1998) provide an account of Q methodology as an example of *statistical methodology* used in relation to assessing medical student's attitudes towards computer-based education. Resienberg *et al* (2001) used Q to explore medical student's perceptions of the best teaching sites whilst Parker and Alford (2010) offer an account of Q in dream research and Allgood (1999) focuses on capturing 'transitive' thought within the context of counselling education. These studies illustrate well the types of phenomena Q is able to 'capture' and perhaps illustrate the robustness of Q as a QN methodology capable of 'measuring' some of the most subjective and QL-type data quite effectively.

Lazard *et al* (2011) discuss the role of Q in terms of advancing the case for methodological pluralism. In their study they utilise Q and thematic analyses in a study on recidivism. Ernest (2001) also reported the value of utilising Q as a means to explore some of the limitations of more traditional research approaches whilst Shemmings (2006) reports on the use of Q in relation to strengthening conceptualisations in psychosocial research.

Block (1961), in his now classic monograph explicates the uses of Q methods within the context of personality assessment in clinical psychiatric practice. The aims of the research were to establish a coherent and objective means of describing personality traits, as psychiatric evaluations of personality were felt to be unreliable. Building on this, Zeldow and Bennett (1997) looked at conceptions of optimal mental health and sought to establish to what extent these differed from Block's conceptions whilst Fowler and Lilienfeld (2007) explored both self- and observer ratings of psychopathy to enhance construct validity of this trait. Churruca *et al* (2014) used Q to explore constructions of bulimia thus continuing to evidence the robustness of Q in providing objective measures of subjective phenomena, including for example feelings of marginalization (Brown 2006).

In the broad area of social work and related practice, Q studies appear to have increasing applicability. Ellingsen (2010) and Ellingsen *et al* (2010; 2011) provide Q-method studies that have a specific focus on research with children (2014). They provide accounts of the methods used by reference to empirical studies involving

adolescent foster children's perceptions of 'family' in Norway, and student social worker's reasons for studying the profession of social work whilst a study by Daniel (2000) describes the use of Q as a means of gathering the views and opinions of social workers on the topic of effective parenting whilst also using the method as a means to engage people in discussions about the topic with each other, in essence using Q to generate debate and to encourage participants to think more deeply about important topics.

Lister and Gardener (2006) explored the ways in which clinical psychologists engaged 'hard to engage' clients. The findings revealed four patterns used by professionals to deal with these issues. Studies in this vein can do much to inform other disciplines where 'hard-to-reach' clients present as a practice issue..

Butler *et al* (2014) explored the perceptions of mothers with severe mental illness towards the Baby Triple P Parenting programme and its perceived effectiveness as an intervention. The findings highlighted the presence of three core themes that indicated general acceptance of the approach. Given the context of the study, such findings are encouraging from a methodological perspective given the low-invasiveness over more traditional interview-based approaches.

Combes *et al* (2004) used the approach to engage individuals with intellectual disabilities in research to explore their perceptions on person-centred planning, thus involving service users in important work around service design and delivery, whilst Q has helped refine needs assessments for individuals with severe intellectual disabilities and severe challenging behaviours (Kreuger *et al* 2008). In the same broad domain, Exel *et al* (2007) undertook a Q study focusing on informal carers' attitudes towards respite care thus providing useful data to assist in service planning and delivery whilst work by Mackenzie *et al* (2011) used Q to analyse subjective responses relating to perceptions of disability and revealed four factors relating to differing paradigms associated with disability and provided evidence for the validity of the use of Q in such areas.

De Mol and Buysse (2008) utilised Q methods to explore understandings and perceptions of the extent of children's influence in parent-child relationships. Of

particular interest here is the fact that the authors used Q-methods with both the children *and* the adults, thus evidencing the functionality of Q in relation to understanding 'unseen' forces (bi-directional influence). Wong *et al* (2004) used Q to locate and describe the influence of shared subjectivities on clinical decision-making in end-of-life care decisions. The findings revealed three underlying factors influencing decisions made by participant physicians. These factors were then considered in relation to their grounding in terms of ethical principles.

The Q-*sort* technique [as a method in and of itself] has been utilised extensively in relation to attachment-related studies. Clark and Symons (2000) utilise the Q-sort method to identify the relationships between attachment security and notions of self at age five. This illustrates well the usefulness of Q in identifying significant processes within the context of interactions and relationships that are otherwise unseen. Subjective perceptions of self-esteem and attachment security were made visible by reference to Q-sorts. In a similar vein, Mitchell-Copeland *et al* (1997) had previously explored child-teacher attachment relationships and the relevance to social competence in preschool children and Posada *et al* (2007) assessed the impact of maternal behaviours on secure attachment constructs in preschoolers. Clements and Barnett (2002) used the Attachment Q-sort devised by Waters (1987) to explore attachment security in toddlers with congenital anomalies. These studies, whilst using the Q-*sort* method do not however utilise Q-factor *analysis*. They use R-factor approaches in terms of analysis – they are measuring particular *traits,* so these should be viewed with caution in terms of their alignment with Q-methods studies *per se*. However, they do illustrate the diversity of applications of elements of Q-methods and Coyl *et al* (2010) explored the associations between preschooler's attachment security, parenting behaviours and context as a means of understanding the composition of the internal working models of the mothers and their children.

Dell and Corotans (2000) utilised Q to explore variability in the perceptions of domestic violence. The results revealed the presence of five factors useful in understanding how people perceive domestic violence. McCaughan *et al* (2002) used Q to explore the attitudes nurses had to factors they felt prevented them from using evidence-based research in clinical decision-making, whilst Prasad (2001)

utilised the Q-set to develop a rating scale regarding attitudes of physicians to HIV/AIDS that revealed the presence of three factors influencing decision-making. Akhtar-Danesh *et al* (2008) provide an account of a range of topics in the field of nursing research that are amenable to Q-methods, many of which were previously regarded as being relatively difficult to research in any meaningful way, but which can now be revealed and explored in detail through the application of Q. Ahmed *et al* (2012) used Q as a means of exploring diversity in the value attached to autonomous informed choice in antenatal screening for genetic disorders and similarities and differences in this value in women from different ethnic origins.

Watts and Stenner (2014) report on a Q study exploring conceptions of love. Factor analysis revealed six categorisations of love, interpreted as 'attraction, passion and romance', 'unconditional love', 'sex and fun', 'friendship and spirituality', 'a permanent commitment', and 'separate people, separate lives'. The findings are used to discuss the changing face of Britain's relational culture. Wallis *et al* (2011) explored practitioner's understandings of narrative therapy using Q generating interesting results regarding subjective experiences of first-person accounts of the efficacy of subjective therapies. Meloche and Mok (2006) used Q to explore attitudes of health personnel to knowledge management and dissemination processes.

Wint (2013) looked at cyberbullying and what young people worry about in relation to being on Facebook whilst Orchard *et al* (2014) explored similar social media sites and identified four viewpoints regarding the ways in which Facebook provided gratification whilst work by Davis and Michelle (2011) used Q to explore attitudes of audiences, emphasising the enhanced value of this approach over and above conventional survey methods in this field. In an unrelated vein in terms of topic, Q is used in other fields to explore attitudes in order to enhance marketing techniques and understand more fully other consumer-related attitudes and behaviours (Stergiou and Airey 2011).

Q can also be used in cross-cultural contexts: Shabila *et al* (2014) reported on the use of Q in exploring women's perspectives on female genital cutting in Iraq. In this context, an awareness of how women perceive these practices is crucial in terms

of informing intervention programmes. The four factors that emerged provided information on how the practice is perceived as a cultural tradition, the extent to which women opposed it as a practice, the role of the law in combating the practice and health-related aspects (see also Wolf 2012).

Thus, the applications of Q are in many respects limitless. The importance of understanding the first-person perspective within both professional and personal domains is clearly apparent. The issue is how the knowledge regarding subjectivity gleaned from Q-studies is utilised.

4.2.4 Qualitative Methods: Semi-Structured Interviews

As a means of enhancing the external validity of the study and therefore remaining true to the mixed-methods paradigm, an opportunity for participants to undertake a semi-structured interview was provided. The interviews were offered immediately after the completion of the Q-sort grid to provide participants with the opportunity to 'debrief' and a qualitative data set to be generated. The opportunity to participate in a post-Q-sort semi-structured interview was made known to participants prior to the start of the study, information to this effect being provided in the participant information sheet (Appendix 3) and subsequently reiterated at the start of each Q-sort session.

The interviews are based on the following schedule which is presented to participants in written form at the conclusion of the Q-sort session for ease of reference. Each question is then responded to and responses noted.

1. Of the statements you placed in the 'agree'/plus [+] zone, were any of particular significance for you? Why was this?
2. Of the statements you placed in the 'disagree'/minus [-] zone, were any of particular significance for you? Why was this?
3. Did the process highlight any general issues or thoughts for you in relation to knowledge and social work?

In terms of the generation of a qualitative data set, the interview schedule is designed to provide participants with the opportunity to articulate their thoughts regarding the Q-sort task itself and consider the ways in which they had ranked/located their statements. Of importance is the opportunity for them to consider whether any particular meanings were apparent to them on the basis of their particular configurations – had the process generated new insights for them regarding issues of professional knowledge? Were there any significant issues emerging for them, prompted by engagement with the study?

The inclusion of semi-structured interviews as part of the overall data collection strategy recognises the value of verbal questioning and discussion as an adjunct (in this case) to the quantitative approach associated with Q-method factor analysis. Having engaged with a (novel) sorting task, participants have the opportunity to discuss their thoughts and feelings regarding both process and 'product' (reflections on their configurations and issues arising therefrom). This not only provides opportunities for the researcher to gain valuable feedback on the sorting task and associated processes, but also to discover whether there are any inconsistencies or difficulties in relation to the concourse of statements (the Q-set) that might conceivably compromise the collection of data. From the perspective of the participants, their involvement in a more 'familiar' research approach (an interview) allows them to discuss broader issues regarding the topic (professional knowledge) whilst simultaneously providing qualitative data rich in meaning, and from a self-referent perspective. The interviews allow participants to highlight connections between statements and comment and reflect upon how they ranked particular statements and the reasons they found to justify this. These commentaries provide additional *contextual* data that can add depth and 'colour' to the quantitative data provided from the Q-sorts.

In utilising semi-structured interviews in addition to the quantitative methods, a number of important and useful principles are brought to bear on the overall study that have the potential to enhance its credibility and validity. These elements include *reflexivity* whereby the participant has the opportunity to think about their particular approach to the issues at hand. When this is coupled with the *openness* of the semi-structured framework, it allows participants to speak freely and to interpret the

questions in a way that makes sense *to them*. This is useful in this context as the strategy for collecting the quantitative data employs the reverse technique of a *forced choice* whereby participants must rate all statements within the Q-sort grid form -5 to +5, leading inevitably to situations where a participant is unable to rate as they would like. Thus, semi-structured interviews can act as a 'corrective' to the perceived stringencies and limitations of one method, providing a more balanced and coherent meta-strategy, as well as counter to any perceived misunderstandings or differing interpretations engendered by language use. There are opportunities for participants to query any apparent/perceived distortions in relation to the statements and the concepts, themes and issues represented.

In addition, the nature of semi-structured interviews allows a degree of *flexibility* in relation to the course of the interview. This privileges the participants agenda and their interests, particularly important as a means of enhancing the underlying theme of the importance of *subjectivity* and the *self-referent perspective* evident within the rationale for Q-methods. Thus, the differing approaches (QN and QL) evidence a degree of complementarity, harmonised under the rubric of the mixed-methods paradigm. In this way, the strengths of the quantitative methods relating to statistical significance etcetera and its capacity to handle large quantities of data (2K+ correlations) are complemented and enhanced by the inclusion of narrative data obtained from participants directly. The use of semi-structured interviews *alone* would be unlikely to capture the full range of meanings provided by participants in their rating of the full range of statements (60) and be less able to differentiate subtleties in the same way that statistical methods can. Thus, *combining* both approaches seeks to enhance each and provide a more holistic analysis and interpretation.

It is also important to state that during the construction of the interview schedule and the execution of the interviews themselves, adherence to extant codes of professional and research conduct and other guidance was consulted and adhered to (British Psychological Society 2010; Social Research Association 2015, 2003).

4.3 Procedures and Processes

4.3.1 Introduction

When undertaking any form of empirical study, it is essential to be clear about the techniques and processes to be used. When using Q methodology, some of these are quite specialist and unique to factor analysis, so some explanation of the terms and processes involved is required. In terms of *doing* Q (or any form of research for that matter) there are a number of stages and processes involved, the first of which relates to the research question. Watts and Stenner (2012) note, *"…a good Q methodological research question must take into account the nature of the method itself."* (p53). This reflects one of Q methods central tenets – that of not imposing *a priori* premises and meanings upon the study – that *abduction* (Shank 1998; Haig 2005; Tavory and Timmermans 204) and not theorising from deductive premises is one of its key strengths. In relation to the issue of the imposition of meaning, Brown (1980) notes that meaning is *"attributed a posteriori through interpretation* [by the participants] *rather than through a priori postulation."* (p54). Thus, the design and structure of a Q-method study bases itself on the underlying structures and principles of effective (Q-) factor analyses. In order for a Q-study to be viable, valid and credible, certain principles of design as these appertain to the choice of statistical analysis must be followed. In the same way, SSIs utilising the outputs from the PQMethod software must ensure that there is sufficient alignment and congruence between the differing *intentions* of these differing approaches. The narrative and essentially qualitative components of the study align with an essentially thematic approach to data analysis utilising statistically significant results from the PQMethod output files. It is here that we can see how a mixed methods approach to design has great validity. However, there has to be a significant degree of functional congruence between these different approaches, which is why the design features of the study were so important – a weakness in one area can compromise data from another.

The following sections describe the design of the study and the various procedures and processes relevant to its implementation and completion. The range of output files lead inexorably to the final statistical analysis within PQMethod (Schmolck

2002), each of which was essential in terms of then utilising the PQMethod programme for subsequent *narrative* analysis.

4.3.2 Ethical Issues

Before embarking on any aspect of empirical activity, appropriate ethical approval and consent was required. In many respects, the need for ethical guidance and approval of all research involving human subjects is, today, almost axiomatic – therefore, before embarking on any aspect of empirical activity, appropriate ethical approval was sought and obtained.

In the wake (primarily) of the Nazi atrocities and their medical experiments and because of some particular research activities such as Milgram's studies on obedience (Milgram 1963, 1974 – see also Gibson 2013), Zimbardo's work on conformity (Haney *et al* 1973; Zimbardo 2007), Rosenhan's use of researchers who were seen as 'sane in insane places' (Rosenhan 1973) and the use of anthropologists to gather intelligence for US Defence programmes (Horowitz 1967), research governance is now a central consideration for all practitioners, and the need is not only to scrutinise the means by which information/data is obtained (the methods) but also the uses to which it will be put and how experiments and/or situational manipulation of any sort is to be undertaken. Utilising principles emanating fundamentally (at least in broad contemporary perspective) from Kant's *Critique of Practical Reason* (Kant 1788/2004), the Declaration of Helsinki on medical ethics (World Medical Association 1975/2013) and the Belmont Report (1979), fundamental principles of respect for persons, beneficence, justice, fidelity (confidentiality), non-maleficence and veracity underpin the research landscape, now governed by a range of policies and protocols (Economic and Social Research Council 2015; Social Research Association 2003, 2013; British Psychological Society 2010; RESPECT Project 2004).

In all forms of social research, respect for autonomy (informed consent; disclosure; understanding; voluntariness; surrogate decision-making), nonmaleficence (*Primum non nocere*: "Above all, do no harm"), beneficence (our [research] intentions should provide benefit to others; promote utility), justice (fairness; equity)

and professionalism in our relationships (veracity, privacy, confidentiality, fidelity) are central principles (Beauchamp and Childress 2013). Within these, there are three areas that generate much concern: codes and consent, confidentiality, and trust (Silverman 2011; Hammersely 2014). Regarding codes and consent, the issue is primarily one of ensuring that participants are fully aware that they are being used in research and that *they* are being researched. Within this, there exists the necessity to ensure that everyone is fully aware of the nature of the research and understand that they have the right to withdraw at any time. These (superficially straightforward) axioms become particularly complex in those research arenas where issues of vulnerability (Liamputtong 2007; Pittaway, Bartolomei and Hugman 2010; Aldridge 2014; Gomez 2014; Quinn 2015) and associated matters of capacity are present (or at least potentially) and in research contexts where 'street-style' ethnography (Punch 1994) and covert activity is deemed to be a necessary and functional part of the research design (Parker and Ashencaen-Crabtree 2014). However, it is important to note that debate continues within the general arena of research ethics as to the *form* such Codes ought to take and what their role should be:

> *'However, in some quarters today it is argued that the main focus ought to be on principles rather than on detailed specifications. An example of this is the British Psychological Society's Code of Human Research Ethics (BPS, 2010). Its preamble suggests that since psychological and social research is a complex, changing, and contextually variable activity, with new methods and research topics continually emerging, specific rules or prescriptions are likely to become outdated quickly. It is also argued that detailed prescriptions encourage researchers to follow the letter rather than the spirit of ethics codes, which may result in relatively unthinking, and therefore perhaps unethical, modes of practice.'* (Hammersley 2014: pp1-2).

It is therefore important to have cognisance of underpinning principles (Beauchamp and Childress 2013; Macklin 2015) within a critically reflexive perspective: *"Critical bioethics requires bioethicists to root their enquiries in empirical research, to challenge theories using evidence, to be reflexive and to be sceptical about the*

claims of other bioethicists, scientists and clinicians. The aim is to produce a rigorous normative analysis of lived moral experience.' (Hedgecoe 2004: 1). In this study, such an approach was inherent (rather than *implicit*) and was explicitly articulated by reference to the need to acknowledge that issues of informed consent took account of the *possibility* of issues relating to vulnerability in all its forms, even though specific actions were not required relative to the participants in this study. However, it was important to make visible the fact that active consideration had taken place – deciding to take no action is in itself a form of action.

In relation to confidentiality, this refers to the need to protect the participant's identity and to ensure that all means relating to data storage etc where potential identity breaches could be foreseen and to manage these. In this study, the involvement of practitioners required that permission for this be sought from senior managers in the local authorities concerned as participation necessitated time-off from work/duties to complete the Q-sort. Thus, as part of this process it was necessary to obtain undertakings from managers that not only could staff volunteer, but that if they did, they did not have to disclose that they were involved in this if they did not wish to. Permissions were granted and in the event, participants were quite open about their involvement, and some actively recruited colleagues on my behalf. However, the point was to ensure that a robust ethical process was extant and functional in terms of managing these issues proactively on behalf of the participants. This of course relates to the issue of *trust* between the researcher and those involved. The processes and procedures developed here were important in both establishing and maintaining trust and, ergo, establishing, promoting and supporting the credibility of the study and, importantly, the research process *per se*.

The broad principles referred to above informed and guided not only the actual *practice* of research, but also the choice of paradigm, methodology, methods, and processes of engagement, data collection, storage and use. This however is a somewhat contested position – whether issues appertaining to paradigm, methodology and methods should be subject to *ethical* scrutiny, or simply seen and treated as purely *technical* matters? (Rosenthal and Rosnow 1984). Within this study, the pragmatic paradigm has as one of its fundamental principles the view that all action (and in this case, *research action*) should seek to enhance human

wellbeing – maximising adaptation under the principle of homeostasis. Pragmatism is more than an instrumental paradigm – it has at its core a range of normative principles extending from Jane Addams (1902) through Peirce (1905), through James (1912), to Dewey (1938) and beyond (Rescher 1992: 1993: 1994; Rorty 1999; Bernstein 2010). Thus, in working within a pragmatic framework, such normative considerations are axiomatic and have informed all aspects of the study, including its design and the use of particular methods. In all areas, considerations as to the moral and axiological components of the study have been in the foreground as ethical decision-making is situational and context-dependent (Hammersley 2014: 13).

The study maintained full adherence to and compliance with the University of Dundee Ethics and Research Governance Policy, UREC Standard Operating Procedures and the University Of Dundee Code Of Practice for Research Ethics on Human Participants. Application was made to the University Research Ethics Committee for ethical approval (Appendix 1), and following some minor amendments regarding procedural issues, the study was given full ethical approval – reference UREC 12055 (Appendix 2 – RE UREC 12055 – approved - email thread dated 20/6/12). All participants were made aware of the issues for which ethical approval had been sought and were advised that the confirmation of ethical approval was available for inspection should they wish to see this. In addition, all participants were provided with the names and contact details of both the primary and secondary supervisors of this thesis. All of these details were contained in the Participant Information Sheet/Agreement to Participate Sheet (Appendix 3).

4.3.3 Q-set Design and Content [Concourse of statements]

In Q methodology, the *Q-set* or *concourse of statements* is a central feature in relation to the design and implementation of this approach. The Q-set is simply the items presented to the participants that they are asked to rank-order according to how important or otherwise a particular statement is to them. As Stephenson suggests, a Q-set '*may be composed of objects, statements, descriptions of*

behaviour, traits and the like' (1952: 223) or anything else that represents a topic or issue. In this case, a range of statements regarding knowledge of and for professional social work practice was generated. In designing the Q-set, a scoping exercise involving a search of the literature relating to professional knowledge, knowledge transfer, professional development and evidence-based practice in social work, conversations[6] with professional social work staff regarding knowledge, skills and ongoing development and a brief content analysis of the main newspapers and 'trade magazines' over a period of three separate weeks was undertaken. These sources provided a range of information that was shaped into the concourse of statements (Appendix 4). These were then piloted with a group of social work colleagues who were not involved in the main study to check whether the statements were meaningful, coherent and adequately representative of the issue to be explored. This process acts as a potential corrective against any differences in terms of language regarding description and explanation of the elements of the topic of inquiry. As was discussed in earlier chapters, the constitutive nature of language has to be considered within the context of all research activity, and as such, the source of materials used within the concourse to represent the topic of knowledge relied upon its degree of alignment to the field of expertise of the participants, such that they would recognise any significant variance in the language used to express core elements of the topic under scrutiny.

This approach to the design and development of a *structured Q-set* (the concourse of statements) aims to identify key themes from within and across a topic area and devise representative statements (in this case) based on these. In experimental-design terms, this approach is seen by some to be akin to the balanced-block approach (Stephenson 1953; Fisher 1960; Brown 1980). In selecting items, there are two types of item sampling: *unstructured sampling* that equates with the use of items *presumed* by the researcher to be relevant to the topic at hand. This does not require any form of 'piloting' and such a sample of items would then be presented to participants. However, using this approach it is possible to either under- or over-

[6] These conversations I shall refer to as 'corridor conversations' as they were brief exchanges with professionals and other colleagues, rather than prearranged, structured events. Each colleague was asked "What issues are there in social work at the moment with regards to acquiring and using knowledge and skills for the job, as well as keeping up-to-date with new developments?"

sample some elements as reference to domain experts (social workers in this case) is not used. *Structured samples* however provide a more balanced alternative – they are more systematic and seek to avoid the weaknesses in unstructured samples. Structured samples also promote *theory testing* by *incorporating hypothetical considerations into the sample* (in this case, statements relating to knowledge use, attachment theory and knowledge of developmental theory). One can therefore utilise *a priori* (deductive) designs representing extant theoretical constructs, or *inductive designs* which emerge from the patterns arising as statements are collected and collated. The Q-set design here was balanced by reference to the breadth of the scoping exercise and the utilisation of domain experts to pilot the initial concourse.

The piloting of the concourse statements ensured that 'due process' was applied to minimise researcher-effects and as referred to above, domain experts were used to provide a degree of validation and independent external authority to the statements. These processes are also designed to minimise the possibility of bias, even though my own biases and ideas around what constitutes the contemporary discourse on knowledge of and for social work and the professions is unlikely to permeate the concourse because of the nature of the approach in Q that offsets the likelihood of this. The aims of Q are to allow the participants to impose *their meanings on the statements and the concourse* – to attribute meaning *'... a posteriori through interpretation rather than through a priori postulation.'* (Brown 1980: 54). The researcher's role is to (simply) compile a sample of statements that are broadly representative of the topic of inquiry. Watts and Stenner (2012) suggest that '[*T]he items are thus better thought of as <u>suggestions</u> rather than as statements with determinate meaning."* (p64: emphasis in original). The form of the statements is such that these are not overtly value-laden, but merely a statement to which a participant will assign a value to it based on their own particular perspective. Even if I included statements that were 'biased' in that they said things like 'X is better than Y', the participants will assign their own value to it, thus negating any value I may have wanted to impose. Brown (1997) makes a similar point when he asserts that *'...the supposed <u>a priori</u> meaning of the statement does not necessarily enter into the Q-sorter's considerations: participants inject statements with their own understanding.'* (p11: emphasis in original). Each statement was then randomly

assigned a number for the purposes of subsequent analysis and then randomly entered into a list to form the concourse of statements.

In constructing the Q-set it is worth noting that it *"may be designed purely on theoretical grounds, or from naturally-occurring (ecological) conditions, or as required for experimental purposes, to suit the particular requirements of an investigation."* (Stephenson 1952: 223), although the construction of the Q-set is perhaps more labour intensive than Stephenson's comments on these imply. Curt (1994) and Brown (1980) have written in terms of Q-set development being more of a craft and an art, rather than a science. One of the major outcomes from the Q-set is to ensure that participants have had the opportunity to model and express their viewpoint on the topic at hand without feeling constrained by limitations (perceived or otherwise) imposed by the range of statements made available to them. Comments made by the participants immediately after the administration of the Q-set provide some indication of how it was perceived in terms of its representativeness regarding professional knowledge (see chapter five section 5.4.1). As Harvey (1997) notes, one of the important human attributes that is exploited by Q is the desire to see structure within and impose meaning on all '*impinging items and stimuli'* (pp 146-7) – this represents the *gestalt*; so long as the Q-set provides a '*representative condensation of information'* (Watts and Stenner 2012: 65), the participants will do the rest.

The concourse of statements with *n=60* is within what is generally regarded as being the normative range for such studies (Curt 1994; Stainton-Rogers 1995) and represents broad themes identified from the 'statement scoping' exercise referred to above. These themes are, in principal at least, representative of the broad issues within the profession at the time of the empirical work and the statements are either directly worded from comments received or are phrased to represent a number of pertinent issues as determined by the scoping exercise. In this way the statements can be seen to originate from within the context of the research question/the nature of the inquiry and the professional *zeitgeist*. Coherence was therefore taken to be axiomatic within the context of the generation of statements, emanating from the professional context – the workplace, professionals in practice, professionals supervising and training those in practice as well as papers, reports, journals and

professional ‘trade’ magazines that, between them, purport to reflect the professional zeitgeist and public opinion on the profession and therefore contribute to the production of a balanced Q-set (Watts 2008).

4.3.4 The Participants (*P*-set)

The choice and engagement of participants in a Q-methods study is approached in a particular way that resonates with the overarching and underpinning methodology and philosophy of the thesis *per se* and with that of the principles of Q: the *inversion* of traditional R-method approaches. One implication of this inversion is that in Q, the Q-set (the concourse of statements) becomes the study *sample*, whilst the participants become the *variables*. This means that there is a greater need to ensure that the participants who are more likely to have something meaningful to contribute to the study, above and beyond what opportunistic and ‘snowball’ sampling might ordinarily achieve. In the course of routinised sampling for general testing of traits using traditional psychometric tests, the (essential) randomness of the participant sample is likely to be less important that situations where you are seeking to explore particular viewpoints on particular topics. In this regard it is therefore important to have a *P*-set that is more (rather than less) representative of the topic at hand: we are aiming to explore the viewpoints of participants whose particular views *matter* in relation to the topic. In this case we wish to explore the views of professional social workers regarding how they obtain, develop, use and share knowledge regarding their practice. It therefore becomes necessary, in order to obtain views that can be said to count for something, to utilise those very people who themselves represent the people whose views are to be explored! We need to avoid a broad, homogenous grouping; thus, a good P-set must always be much more ‘*theoretical...or dimensional...than random or accidental.’* (Brown 1980: 192). Some participant samples may be easily obtained, but it is likely that their views on essentially complex and specialist topics would be less than informative. This is not of course meant to be in any way disparaging: rather, it reflects a concern to ensure that methodological processes and associated methods are as rigorous as possible, both technically and theoretically.

As referred to earlier, participant sampling in Q-methodological studies is designed to utilise those who have something meaningful to say about a particular topic; they are a function of the research question being addressed, in this case, *"how do social workers (and other professionals) get the knowledge they need in order to do their job; how do they use it and are some types of knowing and doing better than others?"* However, in order to ensure as representative a participant sample as possible, *n*=37 were utilised. In Q terms this is sufficient (see Stephenson 1936a, 1936b, 1953; Stainton-Rogers 1995), although the issue in terms of numbers in Q-studies is of less concern that it might be in R-method studies.

The large sample sizes typically utilised in more deductive approaches are often justified on the basis of the need to generalise to a much larger population, so if more participants confirm a particular hypothesis, this is taken to equate with a stronger claim to 'truth' and practical application, even though for some this a questionable assertion (Hughes and Sharrock 1997; Bohman 1999; Okasha 2002). Q-studies, as with most small-scale (often qualitative) studies make different claims when it comes to generalisation. Whilst small-scale studies are unable to make grandiose claims that the findings can be applied to a vast array of others, they *can* (and rightly do) claim to have relevance to others *in similar positions or with similar characteristics* (Watts, O'Hara and Trig 2010) that can have interesting and significant effects and implications. After all, if you are one person with a unique insight into a situation, that knowledge may be highly relevant and of huge benefit to that one other person in the world in a similar position.

The emergence and rise of the service user and carer 'movement' (Boxall and Beresford 2013; Robinson and Webber 2013; Gant 2012) has resonances to the significance and importance of (initially) very small-scale studies into the experiences of others, and those (at times) unique and individual viewpoints have now grown into a force majeure, and one that the professional service industry has, rightly, embraced. Phenomenological approaches (as Q is a variant upon this) have much to offer. Q, as a means of capturing a number of individualised views on matters of subjective (self-referent) import has much to offer across a range of different contexts and research domains.

Q-studies generally aim to establish the existence of particular viewpoints on particular topics and to explicate and seek to understand what those view are and why they may (or may not) be significant. Whether these views can then be generalised to other populations is a matter for the researcher to determine based on the findings and what it is they feel could usefully be disseminated. Watts and Stenner (2012) advocate for the generalisation of *"concepts or categories, theoretical propositions and models of practice"* (p73). Thomas and Baas (1992/1993) refer to the process of generalisation from Q-studies as *"substantive inference"* (p22), a notion with clear parallels to *"inference to the best explanation"* (Hume 1748; Harman 1965; Howson 2000; Lipton 2004). However, the participant sample relative to the study is simply required to be in a position to respond meaningfully to the Q-set, and could in fact be as small as one person. This is because in Q-studies, the *items in the Q-set constitute the study sample, and not the participants.* The participants *are the independent variables* as they act on the items. This is a good illustration of the idea that Q is an *inversion* of the more typical R-method studies. In Q we are undertaking *by-person* factor analysis (how do the participants affect the statements – what meanings do they assign to them?) whereas in R-studies it is *by-item* factor analysis because the participants are the sample and the items (questions etc) are the variables (how do these variables affect the participant?).

The sampling strategy for participants in Q studies is then quite *strategic*, based upon the view that the participants had to be individuals who had something to say about the topic being investigated. Thus, random sampling or snowball techniques were avoided. The participant group was chosen utilising purposive sampling on the basis of them all being qualified social workers across two major domains of practice – those working within children's services and those working within adult services. There were no other inclusion or exclusion criteria. Three large local authorities were approached and a request, along with a participant information sheet sent to each of the children's and adult's teams for volunteers. This request and information sheet (having been seen and approved by the University Ethics Committee – Appendix 2) was sent electronically via a central administrator and advised people that senior managers in each of the three Authorities had agreed to

practitioners volunteering their work-time for the study if they wished. The only other criterion was that there should be a roughly equal proportion of participants from each service domain (children/adult services). When participants made contact, I explained the process to them, making sure that they were fully aware of the purpose of the study and the time commitment likely to be required. They were then advised that I would contact them by telephone to make specific arrangements to meet at a time and location beneficial to them and other participants in order to minimise travel across what is the third-largest geographic region in Scotland, covering Aberdeenshire, Aberdeen City and Morayshire, amounting to some 3,400 square miles/8,700 square kilometres.

4.3.5 Procedures and the Administration of the Q-sort

Once agreement had been reached regarding the date, time and location of the Q-sorting session and participants had arrived, an overview of the session was given and basic demographic information obtained. This was kept to a minimum and focused on what was considered to be relevant in terms of providing additional richness to the data in relation to subsequent analysis and interpretation. The participant's age, years qualified, gender and an additional categorisation relating to the area of practice they were in were noted as well as the option (on the Q-sort grid – Appendix 5) for them to agree to a follow-up telephone interview once the results were finalised. Such demographic information helps to provide context and explanatory power to the data, particularly that generated from the statistical information to inform the construction of the *factor narratives* (see below). As can be seen from the commentary and interpretation of the data/results in chapter five, the demographic information proved beneficial.

Participants had previously been provided with an information sheet prior to agreeing to take part in the study (Appendix 3) and this was discussed, focusing particularly on issues of the right to withdraw and confidentiality. Participants were then presented with an instruction sheet (Appendix 6) and a blank Q-sort grid (Appendix 5). This contained detailed but straightforward information regarding the completion of the task. The *condition of instruction* was made explicit in the

information sheet and asked respondents to rate each statement from -5 through +5, ensuring that the number of each statement was located somewhere on the grid – and that each statement could only be represented once, and each statement number must be included. The condition of instruction is an important element within the context of the study and is central to ensuring and maintaining the integrity of the research question through procedural coherence and consistency. Were participants to be unclear as to how they should respond to the statements presented to them, then the integrity of the study in its entirety would be compromised and the comparison, intercorrelation and factor analysis of the data rendered useless.

Discussion and clarification took place where requested so that each participant was fully conversant with the processes. I was on hand during the entire completion process to answer any queries regarding the completion of the Q-sort grid, but it was made clear that I could not and would not discuss the meaning or interpretation of any of the statements whilst the study was underway – meaning and interpretation was entirely a matter for the participant themselves. It was also explained to the participants that the condition of instruction would actually *force them* to make choices they might otherwise not make. The fact that they had to rank each and every statement and were not allowed to omit scoring any statements or duplicate scorings meant that their choices may well be forced – Q-sort is a forced distribution method.

The Q-sort grid (see below) is a tool that allows participants to record/score their viewpoints on each statement/item in accordance with the *condition of instruction*. It consists of an inverted quasi-normal distribution curve containing sufficient columns to correspond to the rating categories assigned to the study – in this case the range was -5 to +5. The degree of kurtosis applied to a distribution was also considered. The degree of flatness or steepness is related to the degree of complexity of a subject and the perceived expertise of the participant group. In situations where *lay* views on a specialist topic were being sought, the degree of kurtosis would be *steeper* (-3 through +3 = seven points of distribution) than in situations where experts were commenting on a subject they were likely to know a lot about. In this case, the distribution would be *flatter* (-5 through +5 = eleven points

of distribution). The rationale for this relates to the engagement of participants, the extent to which they will contribute meaningfully and the subsequent credibility of the data. Flat distributions (more points of distribution) mean that participants have the option of being much more discriminating in relation to their responses, easier and more likely when you are responding to a topic you know a lot about – not so easy when it is unfamiliar. In this latter scenario, it is more likely that participants will be less engaged with the study, and whilst they might still complete the grid, the extent to which it actually reflects their views could be questionable (Brown 2008). Thus, if there are *less* options for subtle and nuanced responses on an unfamiliar topic for an inexperienced or novice participant, the *more likely* that they will provide meaningful responses.

Figure 4a: A 60 Item Q-Sort grid – flattened with *more* points of distribution (11)

-5 Disagree	-4	-3	-2	-1	0 Neutral	+1	+2	+3	+4	+5 Agree

Figure 4b: A 60-item Q-sort grid – steeper with *less* points of distribution (7)

-3	-2	-1	0 Neutral	+1	+2	+3

This near-normal and symmetrical distribution pattern is preferred for a number of reasons because it represents the normative assumption that most people *ordinarily* feel very strongly, either positively or negatively, about a comparatively limited range of things, but have more moderate or neutral views on many more issues. A normal distribution represents this tendency. A symmetrical distribution also allows for the mean ranking value to fall conveniently at zero. However, there is no particular significance to be attached to the utilisation of the normal distribution curve as the distribution used '*may be of any non-bizarre symmetrical shape'*

(Stephenson 1953: 60) as distribution effects appear to be virtually nil (Brown 1980: pp288-9). This convenience relating to the zero however has a different resonance in relation to Q-methodology. Where, under ordinary circumstances, zero may be used to signify indifference or as representing someone having no view at all on a topic or issue, in Q the zero operates as a hub from around which positive and negative salience emanates and the variability of the Q-sort distribution distends outwards to the polarities. Stephenson (1953) referred to this as the '*distensive zero'*. This is an important feature within the context of the Q-sort as all items are ranked *relative to each other*, so a ranking of zero may not necessarily equate with indifference or unimportance – rather, it may, relative to other rankings, indicate that it is actually important, but only insofar as it 'adds value' to other rankings when considered holistically. These nuances are best exemplified by reference to the *factor narratives* presented in chapter five. In these it can be seen that both zero ratings and minus ratings can denote a positive or otherwise meaningful interpretation. The converse would also apply – that zero and positive ratings can be read as implying disagreement or a negative take on an issue. This is the essence of the interpretive nature of Q – and whilst this may well be open to criticism from some quarters, the nature of the methodology and the associated methods make for credible results when one considers the broader epistemological and paradigmatic issues referred to in chapter three and the critique of the (overly-) positivistic paradigms.

Participants were then provided with a copy of the concourse of statements and asked to look at these. They were referred to the *condition of instruction* as noted on the instruction sheet and were encouraged to study these alongside the 60-item Q-sort grid. They were told that there was no time limit, and for those in group-based settings where a number of practitioners had agreed to meet simultaneously to maximise resources (time), they were asked not to discuss their choices with anyone else whilst undertaking the sort. Participants were then given the option of having the set of 60 statements on separate slips of paper so that they could physically move them into different positions before recording their choice on the Q-sort grid, or the numbered list (or both – although no-one chose both). These differing options recognised the importance of learning styles and provided a mixed-approach to the sorting task. They were also given access to pencils and pens and

blank sheets of A4 notepaper if they wished to make any notes or use aide memoires of some sort.

In relation to the sorting/scoring of the items, participants were given suggestions of strategies they might wish to employ to make the sorting task more manageable. These included putting all the 'definitely agree/definitely disagree' in two piles, before moving on to those likely to be placed more to the middle or at zero. They were also advised/reminded that the scores were not to be seen as representing *absolute* values, and that the difference between a +2 and a +3 wasn't necessarily all that significant – at least they were both a plus ranking. They were reminded that it would be the statistical analysis that would correlate *all* the Q-sorts and produce a composite based on statistical scores that reflected the *overall* configuration of viewpoints, but that their individual Q-sort would be considered in its own right if it were statistically significant in some way, relative to all the other rankings. Thus, participants were encouraged to see their Q-sort as a contribution to a much bigger picture and not therefore to get too anxious about fine distinctions. Having said that however, the point was reiterated that their honest and thoughtful views were required in order to provide as honest and accurate *overall picture* of professional social worker views regarding aspects of professional knowledge.

Each sort took approximately 60 minutes to complete, although this varied from 45 minutes to over 85 minutes. At the conclusion of the sort, the researcher provided participants with opportunities to discuss any issues arising from the activity and to respond to pre-set questions (Appendix 7 and chapter five, section 5.4). These responses and discussions raised issues around the importance of some statements to participants and what the scoring meant for them, to difficulties participants had in making choices they were totally satisfied with to those relating to the relevance of the statements. All of this information was collected and used to inform the secondary aspects of analysis (see chapter five for the results and chapter six for the discussion). Participants were thanked for their time and effort in contributing to the study.

4.4 Analysis

Once all the Q-sort grids had been completed, collected and collated, a unique identifier was applied to each one. This was based on the type of practice each participant was generally engaged in (social work with children or adults), his or her age, gender and years qualified. Thus, a female social worker in children's services, aged 47, female, and qualified for 14 years would have the identifier SW47F14. This demographic information allows for further examination within the context of the interpretive narratives that emerge following the construction of the factor arrays. The information from each of the 37 Q-sort grids was then inputted into *PQMethod* version 2.20 (December 2011) (Schmlock 2002) and analysis undertaken. This particular software programme is specifically designed for Q-method studies and has been constructed utilising the principles of Q-factor analysis detailed by Stephenson (1953) and Brown (1980) as opposed to IBM *SPSS*, which is constructed with *by-item* factor analytic algorithms.

4.4.1 Statistical [Quantitative] Analysis

PQMethod is a statistical programme, tailored to the requirements of Q-studies that utilises the (relatively old) FORTRAN -77-source code programming that is still regarded as being of value in programmes wishing to run mathematical-statistical algorithms. It is however limited in relation to its graphics capabilities, so the user interface is quite 'unsophisticated' by today's standards. The software and system is made up of several elements that lead from the inputting of individual Q-sorts to the final analysis of the data. The programme has a number of input options:

> STATES: this allows for the input of the text of the Q-sort statements. In this study, each statement was given a random alphabetic code, ranging from 'a' (statement 1) to 'hhh' (statement 60) and these were inputted into PQMethod (Appendix 8). This was done because PQMethod only allows 60 *characters* per line.
>
> QENTER: this option allows you to enter the data directly from the collected Q-sorts. This is a time consuming process, necessitating the input of 2,220

pieces of data. Each Q-sort is entered into PQMethod exactly as the participants entered their ratings on the Q-sort grid.

QCENT: this option tells the programme to undertake a factor analysis of the correlation matrix from the 'raw' sorts entered earlier (QENTER), all of which are unseen. The choice of QCENT here instructs the programme to run a Centroid Factor Analysis rather than a Principal Component Analysis (Option = QPCA). Both of these options take the raw data file created by QENTER and create a correlation matrix followed by a unrotated factor loadings output file created by reference to the chosen method of factor analysis (in this case, Centroid Factor Analysis).

QROTATE: this option tells the programme which method of factor rotation to undertake. There are two options – QROTATE that allows you to manually rotate the factors (Appendix 9) or QVARIMAX that does the rotation for you (Appendix 10). In this study, both options were chosen, although manual rotation was undertaken on only factors 1 and 2 following initial varimax rotation in order to provide a more visually apparent exemplar of the function of rotation.

QANALYZE: the rotated factor matrix created by the programme is analysed and emerging factors are differentiated based on the original Q-sort statements, giving a holistic statistical analyses of the complete Q-set and the relationship between all the Q-sorts. According to Schmolck (2011: 11), *'The central goal of the analysis consists in the creation of one idealised, prototype sort for each factor as the best possible, intrinsically coherent, representation of what is general in the individual views associated with the factor.'* On the basis of these prototypical Q-sorts (see chapter five, tables 5n and 5o) we can *interpret* the nature of the factor based on the prototypical, holistic array encompassing all the Q-sorts associated with that particular factor.

The statistical analysis using PQMethod v2.20 produces a number of sequential output files (Appendix 11 includes Appendices D1-D14: Appendix 12 is the original

PQMethod output file). As factor analysis (of any sort) is a *data-reduction technique,* initial output files contain *all* correlations, and are then followed by reductive files. The following sections identify and describe the statistical processes and associated output files leading to the emergence of the factor arrays. In chapter five, which presents the results from PQMethod v2.20, the same order of presentation is followed regarding the output files for ease of reference.

4.4.1.1 Correlation Matrix Between Sorts

This is the first output file from PQMethod. This file, 'Correlation Matrix Between Sorts' (Appendix D1) reflects the nature and extent of the relationships between all 37 individual Q-sorts, providing 2,183 correlations. Correlation statistics are employed to measure "*…the degree of agreement between two sets of scores [gathered from] the same individuals."* (Kline 1994: 18) with +1.0 representing a perfect correlation, and -1.0 a perfect negative (or no) relationship. On the basis of this information, one can determine those Q-sorts that are either more strongly *intercorrelated* i.e: those participants whose individual Q-sorts are similarly configured and which may, on this basis, have commonalities that are significant, both statistically and conceptually, or conversely that are less intercorrelated. The correlation matrix between the 37 Q-sorts represents *all the viewpoints* the participants have produced and therefore encapsulates all the meanings and all the variability present in the study. This is the first measure of association between the variables, which in the case of Q-methodology are the participants themselves.

The Correlation Matrix Between Sorts represents the total *study variance* both in terms of individual Q-sorts and the composite of all of these, of which we can identify three types – *common* variance, *specific* variance and *error* variance (Kline 1994). *Common* variance refers to those portions of meaning held across or by the group as whole. *Specific* variance refers to that associated with specific Q-sorts and reflects particular individualised views, whilst *error* variance refers to random error and 'white noise' produced within any analytical system.

Central to the study and the use of Q-factor analysis is the identification of *common* or shared variance. These shared and *common* portions of variance [meaning] constitute the *factors* (latent variables – see chapter five) within the study that

emerge from the individual Q-sorts, and it is these we seek to identify, analyse and interpret. As Q-factor analysis is a data reduction technique, there will inevitably be fewer factors (shared meanings/commonalities) than there will be individual Q-sorts. These commonalities represent the *key viewpoints* held within the participant group on the subject(s) being explored, in this case knowledge of and for professional (social work) practice.

Each subsequent *factor* (latent variable) is derived from the presence of varying degrees of shared meaning, and Q-factor analysis relies upon the statistical method of Centroid Factor Analysis (CFA) or Exploratory Factor Analysis (EFA) (Haig 2005; Norris and Lecavalier 2010; Schmitt 2011; Holmes-Finch 2013) to highlight these rather than Principal Component Analysis (PCA) (see Kline 1994; Fabrigar *et al* 1999; Suhr 2009) which always and only resolves itself into the best *mathematical* solution.

Given the overarching focus on pragmatism (Peirce 1877: 1905; James 1907; Dewey 1929/1980: 1938; Almeder 2007; Koons 2009; Bernstein 2010) as an organising framework for both the analysis and *interpretation* of the findings, using a PCA solution would be counterproductive, as a strictly mathematical solution does not lend itself to interpretation in the same way as other approaches referred to above. The demands of the data and the nature of the study encourage the use of exploratory factor analysis which itself holds common ground with the broader pragmatic aims of the study regarding the relationship between *findings* (observation) and *meaning*, and encourages the adoption and adaptation of narrative (Spector-Mersel 2010; Andrews, Squire and Tamboukou 2013), phenomenological (Akerlind 2012; Yanow and Schwartz-Shea 2014) and essentially *abductive* approaches (Shank 1998; Haig 2005: 2008: 2012). In fact, Stephenson (1961) referred to *'factor analysis as the technical [or methodological] extension of Peirce's theory of abduction, as a way of generating hypotheses de-novo'* (in Brown 1980: 134). Thus, the use of Q-methodology is both consistent and coherent with the theme of abduction (Znaniecki 1934; Shank 1998; Haig 2005: 2008: 2012) and the application of inductive methods to the analysis of data derived from broader statistical and broad-based deductive techniques, providing a degree of methodological and theoretical congruence throughout the study. Furthermore,

given the limitations of purely statistical methods in providing a full account of the meanings (Factors) represented by the numbers, the use of abduction represents a more dynamic and *phronetic* approach to the research process (Aristotle 1976; Bernard-Donals 1998; Flyvjberg 2001; Flyvbjerg *et al* 2012; Haig 2005: 2008: 2012; Kinsella and Pitman 2012). As Watts and Stenner (2012) note, using PCA *'…generally isn't attractive in Q methodology. It just deprives us of the opportunity to properly explore the data or to engage with the process of factor rotation in any sort of abductive, theoretically informed or investigatory fashion.'* (p99).

4.4.1.2 The Initial [Unrotated] Factor Matrix

The second output file from PQMethod is the 'Unrotated Factor Matrix' (Appendix D2). This file is produced following the input of all data and the selection of 'Option 3' in the PQMethod programme that asks 'How many centroids do you wish to extract?' Centroids are the Factors we wish to isolate. The programme was asked to extract five centroids/factors. The decision to extract *n=5* factors in this study was based on the presence of 5 broad *conceptual* categories referred to in chapter two that provide the framework for the analysis of knowledge forms in this thesis: the *structure* of knowledge referred to/identified by participants; the *type* of knowledge (propositional, tacit, experiential, personal); the *content* of the knowledge (facts, assumptions, prescriptions); the *use* made of knowledge by practitioners and finally, how they *developed* the knowledge (dissemination, alteration).

The process of extraction provides us with a view of the relative positions of all the Q-sorts relative to each other set against *n=5* extracted factors. These extracted factors are those regularities or similar patterns from across and within the entire 37 Q-sorts. The process of extraction is sequential in that Factor 1 represents the first and the largest segment of common variance, Factor 2 the second and so on until all study variance has been accounted for. The extraction process continues (unseen in PQMethod) until no more common variance is identifiable.

The unrotated factor matrix shows the initial correlation of each Q-sort with each factor. Each factor loading needs to be squared in order to ascertain how much of the particular Q-sorts configuration can be explained by each of the factors. This is expressed as a percentage in Table 5a as a means of quickly identifying the extent to which a particular Q-sort's configuration can be explained by reference to a

particular factor. The Cumulative Communalities Matrix (Table 5c below) gives the % equivalence in relation to the extent a particular Q-sort's configuration can be explained by *all* of the extracted factors.

Once extracted, the eigenvalues of each factor were considered and the Kaiser-Guttman criteria applied (Kaiser 1960; Guttman 1954) along with Humphrey's Rule (Brown 1980), which states that *"…a factor is significant if the cross-product of its two highest loadings (ignoring the sign) exceeds twice the standard error.'* (ibid: 223). Thus, with five factors extracted from the data, the noted eigenvalues were obtained, with the % variance (in parenthesis) and the cross product of the two highest loadings (Humphrey's Rule), based on Brown's (1980: 222) method for calculating the standard error (SE) in [parenthesis]:

The calculation for determining the significant factor loading at p<0.01 = 2.58 is:

2.58 x (1 ÷ √60) (60 = number of items in each q-sort)

2.58 x (1 ÷ 7.7459)

2.58 x 0.129 = 0.333

The calculation for determining the standard error [SE] is:

1 ÷ (√60) (60 = number of items in the Q-sort)

1 ÷ 7.7459 x 60 = 0.129 rounded to 0.13 x 2 = 0.26

(Humphrey's Rule = twice the standard error)

Therefore:

Factor 1 = 9.5202 (variance = 26%) [Standard error = 0.55]

Factor 2 = 5.7209 (variance = 15%) [Standard error = 0.57]

Factor 3 = 0.9420 (variance = 3%) [Standard error = 0.09]

Factor 4 = 1.1911 (variance = 3%) [Standard error = 0.11]

Factor 5 = 0.9524 (variance = 3%) [Standard error = 0.07]

The general rule is that eigenvalues greater than 1.00 should be considered as significant. However, in conjunction with this rule is the extent of the variance explained by any given factor. As can be seen, F1 accounts for 26% of the common variance, and F2 15% - a total of 41%, so although F4 has an eigenvalue of 1.1911, its explanatory power is limited to 3%. It was therefore decided to reject F4 along with F3 and F5 as these only accounted for 9% of the variance between them, with

50% being specific or error variance. It is generally regarded that a combined variance of 40% or above equates with a sound factor solution (Watts and Stenner 2005). However, in addition to this, consideration of the application of Humphrey's Rule (twice the SE) clearly supports the extraction of only Factors 1 and 2; Factors 3, 4 and 5 do not reach the threshold criteria of 0.26. Thus, the decision was to *rotate* two factors – F1 and F2 following their extraction in order to interrogate these both quantitatively and qualitatively using the 'crib sheet' and narrative approach (see below) conjoined with follow-up telephone interviews (see below).

4.4.1.3 Cumulative Communalities Matrix

The cumulative communalities matrix (Appendix D3) provides the sum of the squared factor loadings (based on the initial extraction of 5 Factors) for each Q-sort and indicates how *communal* (or common) that Q-sort is relative to the others. The cumulative variance explained by the extraction of these 5 Factors is 50% - however, as we have seen above, Factors 3-5 account for only 9% of this.

Communality is calculated thus (using Q-sorts 2 and 29 as illustrations):

$$\boldsymbol{h^2 \text{ (Q-sort 2) = loading on F1 – F5}^2 =}$$

$$0.73^2 + -0.33^2 + 0.16^2 + 0.03^2 + 0.18^2 =$$

$$0.53 + 0.11 + 0.02 + 0.01 + 0.03 = \boldsymbol{0.70}$$

$$\boldsymbol{h^2 \text{ (Q-sort 29) = loading on F1 – F5}^2 =}$$

$$0.08^2 + 0.49^2 + 0.04^2 + -0.25^2 + 0.10^2 =$$

$$0.01 + 0.24 + 0.00 + 0.06 + 0.01 = \boldsymbol{0.32}$$

(based on Brown 1980: 223-224).

4.4.1.4 Factor Matrix with an 'x' indicating a Defining Sort F1/F2 [Rotated Factor Matrix]

This output file (Appendix D4) provides a list of all the Q-sorts and their relative loadings on each of the two extracted factors. The loading of a Q-sort onto a particular factor tells us how close it is to the factor's overall viewpoint i.e: a higher loading indicates greater agreement whilst a lower figure represents greater divergence from this.

The function of *rotation* is one of both statistical/mathematical relevance and of theoretical relevance, and it also acts as a functional means of *visualising* the data and the relative positions of each Q-sort in a physical concept space (Appendices 9 and 10). By comparing the diagrams in these appendices we can see the relative positions of the Q-sorts as they cluster together, or not, as the case may be. This helps us in appreciating the significance of the numerical representations made available in the various output files.

The PQMethod programme rotates the factors *orthogonally* in order to maintain the 90-degree relationship that exists between the factor axes and therefore ensures that each factor's statistical independence can be maintained. It is also possible to rotate the factors *obliquely*, but this breaks the 90-degree-rule and is not available in PQMethod. PQMethod rotates the factors into the most relevant orientation – into focus, in order to analyse the loadings. This is referred to as *varimax* rotation that is regarded as the most effective and appropriate method of rotating factors. It operates statistically by adhering to the *principle of simple structure* (Thurstone 1947). This means that varimax rotation tries to ensure that each Q-sort defines itself in relation to only one factor so as to ensure that as much of the study variance can be accounted for. However, it is possible, and appropriate (if relevant) to combine varimax rotation with *by-hand* rotation. This was undertaken with Factor 1 and Factor 2 (Appendices 9 and 10) rotating the axes by 18 degrees. In the event, the rotation provided no significant advantage above the varimax rotations provided by the PQMethod programme and reported in the rotated factor matrix [*Factor Matrix with an 'X' indicating a Defining Sort*] as the viewpoints of the two factors were sufficiently focused. Rotation seeks to maximise the factor loadings of each Q-sort so as to include as much data as possible into the final analysis. However, where the loadings are sufficiently robust, by-hand rotation will achieve little. Factor rotation could be seen as some sort of methodological/statistical 'cheating' – shifting the Q-sorts along the axes until a point is reached where they 'look' better. Rotation simply alters the position of the factors and their viewpoints relative to the Q-sorts, but it *does not* alter the position of the Q-sorts relative to each other. The impressions made by the participants on the Q-set remain fixed. With rotation, *our* perspective is sharpened without altering any of the relationships that exist between

the Q-sorts, and ergo, the overall messages being delivered (Watts and Stenner 2012: 129).

Those Q-sorts that are said to be ‘defining’ are those that load significantly (statistically speaking) on only *one* factor; non-defining sorts are those that load significantly on more than one factor and are therefore said to be *confounded*. It is only the ‘defining’ sorts that are considered in relation to the construction of the factor arrays.

4.4.1.5 Free Distribution Data Results

This file states the standard deviation for all Q-sorts (Appendix D5).

4.4.1.6 Factor Scores with Corresponding Ranks

This output file offers a simple comparison of how a particular item (statement) has been ranked by each of the factors. For example, statement 4 has been ranked at 11 in relation to F1, but at 53 (out of 60) by F2 (Appendix D6).

4.4.1.7 Factor Scores – F1 [Z-Scores]

This output file provides a rank ordering of each item/statement based on the (standardised) z-score (z-scr). This allows for cross-statement comparisons to be made between factors. The z-score is simply the *standard score* that calculates the probability of a score occurring within the normal distribution and is a result of the process of standardisation referred to above (Appendix D7).

4.4.1.8 Factor Scores – F2 [Z-Scores]

As above, but for Factor 2 (Appendix D8).

4.4.1.9 Descending Array of Differences between F1 and F2

This output file utilises the Z-score as a means of displaying the greatest and smallest differences that hold between the statement rankings. It is possible to see at-a-glance which statements were regarded more (or less) positively by each factor (Appendix D9).

4.4.1.10 Exact Factor Scores in Z-Scores (Z-SCR) and T-Score Units [SPSS]

This output file was inserted by Schmolck (2011) and provides a link to SPSS programmes (Appendix D10).

4.4.1.11 Factor Q-Sort Values for each Statement [F1/F2]

This particular table is perhaps the most important of all the output files and forms the basis for the composite factor arrays (Appendix D11). In essence, this file evidences the data-reducing properties of factor analysis. Thirty-seven Q-sorts have been condensed into two, representing the degrees of allegiance to a particular viewpoint. However, at this point, those viewpoints are *statistical*. It is the construction of the factor narratives, based on these composite factor arrays provided by this output file that engages the interpretive and qualitative methodologies and methods, thus beginning the integration of the two methodologies – quantitative and qualitative. This phase – the interpretation of the factors from the statistical data – is the essence of Q. Stephenson (1936a) was at great pains to emphasise the *holistic* nature of the procedures of Q as being distinct from the atomistic methods used in R-method factor analysis. The point is that the factor arrays should allow us to reach a full explanation of the whole viewpoint for each factor.

4.4.1.12 Factor Q-Sort Values for Statements sorted by Consensus vs. Disagreement (Variance across factor Z-Scores]

This file presents a list of all the statements in the Q-set, beginning with those that the factors have agreed most upon, moving down to those where there is most disagreement (Appendix D12).

4.4.1.13 Factor Characteristics and Standard Errors for Differences in Factor Z-Scores

This output file presents the reliability and error measures for each of the factor arrays (Appendix D12).

4.4.1.14 Distinguishing Statements for Factor 1 and Factor 2 with Q-Sort value (Q-SV) and Z-Scores (Z-SCR)

This file provides information as to those items a particular factor has ranked in a significantly different way (Appendix D13).

4.4.1.15 Consensus Statements - Those that do not distinguish between ANY pair of Factors (F1 and F2)

These items are those that have been ranked *similarly* across both factors by those participants who reflect Factor 1 overall, and evidence no statistical significance (Appendix D14).

All of the above output files utilise the *total weighted scores for each item/statement in each Q-sort.* These scores are referred to as Z-scores (Brown 1980: 242-243). The Z-scores for each statement are then used to locate each statement within each factor in its appropriately weighted place (-5 to +5) and create a statistically accurate *Factor Array* – a composite Q-sort based upon all individual Q-sorts and representing that factor's viewpoint.

Other ways of representing the data include the construction of *composite factor arrays* for each of the factors identified. These Q-sort grids are presented with the statements located in their statistically correct rank ordered position based on the Z-scores provided by PQMethod. These factor arrays form the basis of the *factor narratives* presented in chapter five. This represents the culmination of the factor extraction and rotation process – 37 Q-sorts have been reduced to just 2. As such, the data reduction process inherent in Q-method has achieved its aims. These two composite arrays represent *key viewpoints* relating to the research question(s). However, careful analysis and interpretation of the arrays is important, as is the *Correlation Between Factor Sorts* (Appendix D1). This output file indicates the extent to which the Factor arrays intercorrelate. The greater the correlation between the scores, the *less distinctive* is the array. If there is a high correlation, this may mean that the Factors are actually saying the same things, but in a slightly different way. However, as the data suggests, the correlation is *non-significant* at <0.01 (0.33 is the significance level) as the correlation between factor scores is 0.04. This suggests that the extracted factors are quite different, and the narratives reflect this. The factor narratives are the *interpretive* outputs from the PQMethod programme

and bring together the QN and QL elements of the data extraction and analysis processes.

4.4.2 Interpretative [Qualitative] Analysis

The factor narratives are the product of the interpretation of the meaning and significance of the ranked statements in the composite factor arrays. Each composite factor array, compiled on the basis of the rank ordering of statements confirmed by reference to the Z-scores provides us with a *prototypical factor*. The factor arrays represent holistic viewpoints on the topic under inquiry. The presence of two factors allows us to highlight core themes and issues from within each factor, interpret what this might be saying regarding the topic of inquiry, highlight key themes and issues, then compare and contrast at a number of levels using the composite arrays cross-referenced to the various output files referred to in this section. By cross-referring in this way, we can not only interpret more accurately, but target particular statements that may be indicative of differing views that may have significance and relevance to professional practice.

In addition, these holistic and *subjective* perspectives are further explored and analysed by reference to the utilisation of more qualitatively oriented methods in the form of post-Q-sort semi-structured interviews along with the use of demographic information from the participants, all of which add a further dimension to the interpretive process and provide a means of data triangulation.

4.4.2.1 Abductive Analysis

The descriptive factor narratives will be analysed by reference to *abductive analysis*. Abductive analysis *'…provides a way to think about research, methods, and theories that nurtures theory construction without locking it into predefined conceptual boxes. [It] views research as recursively moving back and forth between a set of observations and a theoretical generalisation.'* (Tavory and Timmermanns 2014: 4). In relation to the factor narratives articulated in chapter five, the discussion of these will utilise an abductive approach and make a number of inferences regarding the meanings inherent within these (Haig 2005, 2005a, 2008; Shank 1998). As stated earlier, such commentary as may emerge is grounded and situated

by reference to the extant factor arrays so any theoretical generalisations are founded upon the subjective realities as articulated by the participants.

Data analysis is in essence a semiotic issue – what is this data a case of? (Peirce 1903; Weiss 1940; Morris 1946). In the pragmatic tradition emanating from Peirce, through James, Dewey, Royce and Mead (amongst others), the construction and creation of *meaning* is the central purpose of data analysis – from wherever the data arises and in whatever forms it presents itself. Abduction was, and remains, a core and defining feature of the American Pragmatist tradition, with Peirce first articulating its importance in terms of contemporary philosophy of science (Peirce 1905; Fann 1970). In Peircean terms, the logics of both abduction and deduction add to our capacity to arrive at a conceptual understanding of particular phenomena, whilst the logic of induction adds qualitative 'detail' to this scheme as well as acting as a 'self-correcting' mechanism by reference to extant theories brought to bear on the topic at hand. Thus, following data analysis, abduction allows us to explore the data and discern patterns and suggest plausible hypotheses or rationales for such interpretations as may be put forward – deduction then provides the means to further test these, whilst inductive strategies engender further theoretical possibilities by reference to 'covering theories' which may then lead us back to abduction.

According to Peirce (1905), the processes of induction or deduction are not particularly creative as neither leads to new theories. The purpose of abduction however is to encourage us to move away from preconceived notions and to create new narratives concerning the phenomena under scrutiny – abduction is a creative, inferential process with the potential to allow us to think differently about the things we can perhaps all see already (Schopenhauer 1819/1851; Paavola 2005). This however is in no way meant to imply that abduction is in any way superior to deductive or inductive approaches. On the contrary, it is the weakest form of inference as it relies for its success upon a 'situational fit' between the observed facts (via induction) and the application and relevance of general rules (deduction). Abduction though derives strength and plausibility through its intersection with these other modes of inference and, in particular, its innovative potentials. However, as Haig (2005) points out:

> "*It is commonly thought that inductive and deductive reasoning are the only major types of inference employed in scientific research. It is well known that conclusions of valid deductive arguments preserve the information or knowledge contained in their premises, but they do not add new information or knowledge. By contrast, inductive arguments are ampliative in that they add new information or knowledge to existing information and knowledge. However, inductive arguments, though ampliative, are descriptive in character because they reach conclusions about the same type of manifest attributes mentioned in their premises. Importantly though, science also adds to its store of knowledge by reasoning from factual premises to explanatory conclusions. This type of inference, which is widely ignored in scientific methodology, is known as* ***abduction.****"* (p 304: emphasis added).

The abductive approach to inference builds upon and develops Peirce's ideas regarding abduction (Hartshorne and Weiss 1960) and *"…consists in studying the facts and devising a theory to explain them.*" (Ibid: 90), adopting the following general schema and necessary auxiliary claims gleaned from broader contextual variables:

> "The surprising fact, C, is observed.
>
> But if A were true, C would be a matter of course.
>
> Hence, there is reason to suspect that A is true." (Ibid: 117).

It is important to note however that the (conditional) assertion articulated here should not be taken to imply that abductive inference produces truths as a matter of course. The suggestion that the theory might be true (or approximately so) is sufficient, providing it is *plausible* given all the circumstances that apply at the time. We therefore need to differentiate between the *T*ruth (the goal of 'Big' science – see chapter three) and the value and utility of the acceptance of theories or 'warranted assertions' or other examples of the *t*ruth (Dewey 1938; Boydston 2008 volume 4) based on other criteria such as predictive success (experiential knowledge), simplicity (inference to the best explanation) (Lipton 2004) and explanatory capacity (utility), all of which, whilst not constitutive of the *T*ruth, are *indicative* of it. The explanation(s) that emerge from the application of Peirce's abductive heuristic are derived from the initial conditions of plausibility and allow for

generative justifications that may then be subjected to further enquiry following deductive and inductive processes of logic in order to reduce the *approximations* inherent in the initial formulation. According to Campos (2011)

> *"The result of abductive reasoning…is the suggestion of what may plausibly be the case or fact that explains an observed phenomenon. This is different from the deductive conclusion that something must necessarily be the case under given hypothetical or axiomatic conditions and from the inductive conclusion that something probably will be the case in a calculable proportion of cases, upon the fulfilment of some particular conditions in nature.'* (pp 427-428 – emphasis in original).

Abduction is however a credible epistemological process, especially where its provisional nature in relation to theory construction is accepted as itself being axiomatic. From the perspective of professional practice, this approach has the potential to allow for the effective and creative use of all forms of knowing and, set within the broader principles of pragmatism, has axiological and epistemological credibility and practical functionality. This approach also has the scope to facilitate the effective inclusion of evidence-based knowledge along the lines of 'Mode 2' knowledge production (Gibson *et al* 1994) although within the pragmatic framework, this mode could be extended to include all forms of empirical knowledge, not just that derived from experimentation or large-scale studies as articulated by Gibson *et al*. The issues regarding abduction is its orientation towards the explanation of observed facts, whilst induction refers itself to the degree of agreement between those observed facts and those predicted by inductive inference (Campos 2011: 428).

Inherent within the appropriation of a pragmatist approach to research and data analysis is the need to explicitly foreground existing theories relevant to the topic of inquiry and be acutely aware of the need to both see and think about our observations differently (Schopenhaur 1859). These stances may well constitute something of a rupture with extant inductive approaches to the analysis of data, particularly if we cite *grounded theory* (Glaser and Strauss 1967; Chamez 2014; Corbin and Strauss 2015) as an 'exemplar' of a methodological approach that

privileges the notion of researchers as ‘tabula rasa’ and *“…reifies the process* [of coding and memo construction] *while sacrificing the very reason grounded theory came into prominence: to explain and encourage theory construction.”* (Tavory and Timmermanns 2014:16). Insofar as deductive approaches are concerned, abduction would be essentially disallowed insofar as theory creation is concerned given the positivistic ‘need’ to *justify* theory rather than create it. Abductive approaches aim to dissolve the demarcation between discovery and justification. This approach to theory generation aims to avoid being mechanistic: *“The craft of theorising in the research act is then to learn how to solve a practical problem: making sense of data.”* (Tavory and Timmermanns 2014: 6).

Thus, abductive analysis presents itself as a coherent and tangible epistemological approach focused on the symbiosis of theory, method and observation, in spite of claims and criticisms to the effect that, as put forward by Peirce, it can seem like little more than ‘guesswork’ to some (Fann 1970; Rescher 1978; Nathan 2001; Paavola 2005). However, what Peirce also acknowledged was the importance of socially situated learning and its role in theory construction. *Experience* and the previous learning from this, from across all domains, is used to assist in developing ‘reasons why’ things happen as they do (proto-theories). In this way, any ‘guesswork’ is predicated not on serendipity, but on the application of prior learning, common-sense in the tradition of Duns Scotus (Bettoni 1961; Wolter 1987; Cross 2014) and Thomas Reid (Reid 1918/2012; Brookes 2000; Cuneo and Woudenberg 2004; Wolterstorff 2004) and other forms of tacit and personal knowledge forms – Hume would refer to these as ‘habits’ and ‘customs’, whereas Wittgenstein would endorse and refer to the necessity of such things as providing the axis around which our sense of what is *fundamental* to our worldview, hinges – a form of ‘foundationalism’ (or, in everyday parlance, our preconceptions) regarding causality (Palinkas 2014; Marsh 2014), normativity and the nature of the world *as we conceive it to be* in both real and abstracted terms from our own vantage point. Bourdieu (2003) would conceive of such things as the basis of and for practical action, a theme which will be developed below as we progress through the notion of ‘practical action’ as being intricately connected to and manifesting as *practical*

wisdom or *phronesis* (Raz 1978; Flyvjeberg 2001; Kinsella and Pitman 2012; Shotter and Tsoukas 2015).

The relevance of abduction in relation to the present study and the findings arising therefrom is to utilise this approach in an attempt to provide an account of and for the findings within the descriptive factor narratives in a plausible way and to make theoretical generalisations regarding their significance and applicability to *professional practice(s)* (Shotter 2015; Edwards and Daniels 2012; Edwards 2011). Where plausible interpretation within the confines of existing theory is not possible, abductive inference/analysis can provide a means to extend these observations/findings into the realm of nascent theory and explanation with suggestions as to future means by which plausible interpretation might be made possible by reference to methodological and practice-based strategies. In the context of professional practice, these possibilities and potentialities need to be seen as *useful*, where this is taken to imply (from a pragmatist standpoint), a theory *or an explanation* taken to be any form of generalisation about observations or experience that provides a potentially useful and practical insight about the world and how it works, or how it might work in the future. These conceptions are based on Peirce's *Pragmatic Maxim* in that any theory or explanation needs to extend its potential (explanatory or otherwise) across time into the future and in this regard be (generally) *prospective* and *innovative* (Pennacchia 2013) in its orientation.

In relation to the nature of prospective theory/explanation, these do not need to be constrained by reference to pre-existing theories *in toto*. In the social world at large, and in that part of the social world where professional and public worlds intersect, the people with whom professionals work *often have their own explanatory frameworks as to why the world (their world) is as it is*. These frameworks have as much explanatory power for that person as any 'academic' theory - perhaps even more so. The crux of the matter within a pragmatic epistemology is the perceived capacity of that framework to provide meaning to a situation or to provide a plausible account to those involved as to why what is, is (Dewey 1910, 1929a) and to aid understanding with a view to developing solutions. Pragmatism and its axiological

underpinnings would not privilege one interpretation over another. However, professional ideologies may not see things in the same light and it may be that professional and/or organisational discourses of power and incipient forms of Foulcauldian governmentality (Lemke 2012) could negate the functional equivalency offered from within a pragmatic epistemology. In such circumstances, *professional values* would have a role to play as much as the commitment to valuing the role of empowerment and inclusion and the experiences of service users and their carers. In this way, practitioners can engage *meaningfully* with all possible perspectives (actual and prospective) within a specific practice context, particularly those that appear to have more (rather than less) *explanatory traction* in a given situation. This is one of the strengths of an abductive approach to theory generation and the construction of *contextual* meaning.

The above outputs, processes and analyses are discussed in chapters five and six.

Chapter 5: Results

“The term "behavioural scientist" is one typically reserved for the mathematically gifted, and has generally become a better predictor of statistical knowledge than it has knowledge of behaviour. This is due, in part, to the seductive elegance of such methods as factor analysis, which often serve as sublimations for the phenomena they represent; in our case the operant nature of human subjectivity. But to elevate method is to mistake for fundamental what is only based upon it, and to fail to recognise the role of method as a compensation for weaknesses and limitations: were we but gifted with insight and clear vision, we could apprehend the character of nature directly and would have little need for instrumentation. But what is of ultimate elegance is nature itself: of human minds in operation thinking about political things. Of such we know very little, and it is only to the probing of these mysteries that the technicalities presented in this section have utility.” (Brown 1980: 263).

5.0 Introduction

Chapter three provided an account of the relevance of philosophical positions, paradigms of inquiry, ontology, epistemology, methodology and the relationship of these to methods of data collection. Chapter four provided an account of the data collection methods and techniques used (Q-Factor Analysis). In this chapter the processes of both quantitative and qualitative data collection and analyses are described and the emergent statistical results and narrative findings articulated.

The methodological approach and those methods utilised here in relation to the quantitative dimension are based on Stephenson’s Q-(Factor) Methodology (Stephenson 1936a; 1936b; 1953; Burt and Stephenson 1939; McKeown and Thomas 1988), derived and adapted from Spearman’s product-moment correlation (Spearman’s *r* technique) (Stephenson 1935). The (Q-sort) data has been statistically analysed using Schmolck’s *PQMethod* software package (Schmolck 2002), and interpreted by the writer *a posteriosi* to construct descriptive *factor*

narratives. In addition, comments and feedback from *n*x20 semi-structured post-Q-sort follow-up interviews have been included along with basic demographic information regarding each participant and provide data from the qualitative dimension of the project.

5.1 Analytic Aims and General Strategy

The overall aim of the analytic process is to deliver both an acceptable 'factor solution' from the available quantatitive data and a meaningful interpretative solution from the qualitative data, with both aspects utilised in the final analysis to draw conclusions, condsider implications and make recommendations.

From the quantitative perspective, factor analyses of different kinds are capable of producing a potentially infinite number of solutions, so issues relating to what is deemed to be both appropriate and acceptable in terms of the (statistical) analysis of data and its treatment are determined on the basis of the type of study, the topic, the context, the 'flavour' of the data and, ultimately, the viewpoint of the investigator, rather than pure mathematically-driven options. Q-Factor analysis and its many and varied statistical aspects are discussed in considerable detail in Brown (1980: esp. pp264-319). Suffice to say however that in spite of their *own* importance and stature in the realm of statistics, the statistical components themselves are but 'tools' to help us in arriving at a place where analysis and interpretation of the subjective views of the participants on the topic at hand can proceed functionally in order to deliver meaningful commentary on the phenomena being explored. As Brown (1980) makes clear, "*These are mechanical conveniences that serve to bring relevant phenomena to light: they are for demonstration and serve the requirement of empiricism that conceptual representations be public."* (p181). In addition, Stephenson (1953) states, *"…the importance of Q-technique lies more in the psychological application than in any of the statistical devices it employs or represents."* (p29).

The statistical data in and of itself is invariant and no amount of rotation (for example) or other forms of statistical 'manipulation' can or will alter the factor

loadings. If a particular Q-sort correlates significantly with another, this correlation will remain so even if subsequent factor rotation does realign the *spatial* orientation in order to provide greater abductive possibilities based on the investigators hypotheses (Stephenson 1961). Thus, the statistical analysis *per se* is of less import in terms of its own significance than the information which it provides as a means of moving us from large amounts of individual data to a composite, mathematically and statistically-robust and valid output that can then be interpreted in terms of psychological meaning and significance in relation to the topic at hand. It is important to note that the investigator's role in relation to factor interpretation is not one of manipulation simply to suit their own *a priori* purposes (Brown and Robyn 2004), in spite of what some might infer:

> *"What the critic of factor interpretation usually means to imply is that the conclusions reached are arbitrary, which is quite different from saying that they are subjective. Q-technique provides instrumentally aided perception, and the array of factor scores which results does not lend itself to capriciousness: an interpretation, subjective as it may be, must square with the known facts. As Hanson (1969: 313) has said: "There is nothing subjective about arguing validly to true conclusions. This very much depends on the way the world is.""* (Brown 1980: 257).

The output files and quantitative data produced by PQMethod v.2.20 (PQM) allow for data reduction, factor rotation and the production of reduced and *composite* factor arrays, which are then subjected to critical scrutiny and interpretation. The statistical results are presented below in a more accessible form with descriptive commentaries, with the raw data from PQMethod v2.20 available in appendices 11 and 12. Thus, the statistical output from PQMethod v.2.20 forms but one part of the analytic process: it (simply) tells us which of the Q-set items (statements) are deemed to be important to the participants and it is the content and significance of these, based on factor loadings and the Q-scores on those Q-set items, that we are ultimately wishing to identify and comment upon. As Brown (1980) says:

> *"…in Q, the greatest interest is in the sample elements, the statements, since the factor scores they receive reflect an attitude in operation. What is*

> *of interest are the attitudes as attitudes quite independently of whoever may have provided them. This is not to say that the persons as such are of no interest, but the principle of limited independent variety (Keynes, 1921) holds that only a small number of factors are likely to be involved in any domain of discussion, so factors…are apt to emerge from virtually any set of (participants) we might wish to select for study."* (Brown 1980: 247–emphasis in original).

In addition, interpretative analysis of the quantitative data is aided by reference to the demographic information of participants: type of practice engaged in, age, gender and years qualified, as well as reference to the broad categories initially postulated relating to structure, type, content, use and development of knowledge as discussed in chapter four, so that the statistical findings fit squarely within the broader epistemological, phenomenological, pragmatic and professional contexts of the study.

From the qualitative perspective, the post-Q-sort interviews are designed to provide a qualitative first-person perspective on both *process* and *product* – ie: what, if anything, was significant to the participant in terms of engaging with the research process itself and in relation to what they produced – their particular configuration of statements and what particular statements may have meant for them, and why. In this way, participants are able to narrate their particular and unique perspective on any of the statements as well as providing contextual information that might assist in later post-data collection interpretation by the researcher. The adoption of both quantitative (QN) and qualitative (QL) approaches recognises not only the paradigmatic assumptions carried within such appelations, but actively seeks to maximise the strengths of both whilst offsetting their weaknesses insofar as these might be seen to impact upon the interpretative 'solutions', be they statitstical or discursive.

5.2 Quantitative Data - Statistical Processes and Results

Having obtained completed Q-sorts (*n*=37) the quantitative data from each was inputted into PQMethod v.2.20, and the requisite statistical procedures followed. There are several procedures and processes involved in the quantitative analyses, and the order of presentation of the quantitative findings here mirrors that of the PQMethod output file (Appendices 11 and 12), the commentary regarding these processes having been presented in detail in chapter four. The descriptive and interpretive narratives (the qualitative results) are then presented followed by the results and findings from these and the post-Q-sort interviews/discussions.

5.2.1 Correlation Matrix Between Sorts

The correlation matrix is presented in raw form in Appendix D1. This provides an account of the extent and nature of the relationships that exist between all the Q-sorts in the study and therefore provides a measure of all the study variance. Subsequent analyses then reduce and refine this initial data mass to more manageable proportions and are presented as the unrotated factor matrix (Appendix D2). The strength and relevance of the intercorrelations will be highlighted later in tables 5a and 5b. These relationships coalesce to form the factors – portions of common variance extracted and identified by reference to centroid factor analysis in PQMethod that are both sufficiently large and statistically significant to adequately and accurately represent the viewpoints and shared meanings of all the participants. In its initial output form, the correlation matrix allows us to see the extent of the relationships between all the Q-sorts – the higher the figure, the greater the level of alignment of two Q-sorts: Q-sort 1 has a correlation of 0.50 with Q-sort 25, meaning that half of their respective variance is shared between them. Q-sort 11 shares 0.63 of its common variance with Q-sort 2, whilst Q-sorts 23 and 8 share 0.67 portions of variance. Conversely, Q-sorts 7 and 33 share .00 portions of variance whilst Q-sorts 20 and 30 share only 0.05 portions of common variance.

Table 5a: Initial [Unrotated] Factor Matrix [Appendix D2 – Raw Scores]

Q Sort	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
1. sw37f15	0.5536 30%	-0.2249 04%	-0.3041 09%	0.0492 00%	0.1702 03%
2. sw48f05	0.7354 53%	-0.3262 11%	0.1648 26%	0.0347 00%	0.1807 03%
3. sw54f12	0.3995 15%	-0.2097 04%	-0.0715 00%	-0.0291 00%	-0.2474 06%
4. sw45f09	0.6666 45%	-0.1633 02%	-0.1949 04%	-0.0298 00%	-0.0947 01%
5. sw59f15	0.4961 25%	-0.3374 11%	-0.0709 00%	0.1037 01%	-0.0825 01%
6. sw61f18	0.5919 35%	-0.4295 17%	0.0763 01%	0.0772 01%	-0.0577 00%
7. sw55f33	0.6077 37%	-0.2603 07%	0.2475 06%	0.4330 18%	-0.2017 04%
8. sw51f11	0.7282 53%	-0.2834 08%	0.2363 06%	-0.2159 04%	0.0525 00%
9. sw36m03	0.6256 38%	-0.0379 00%	-0.2740 07%	-0.2035 04%	0.1962 04%
10. sw53m22	0.5749 32%	-0.1190 01%	0.0763 01%	-0.1819 03%	0.2264 06%
11. sw55f13	0.6166 38%	-0.3503 12%	0.2174 04%	0.1479 02%	0.1762 03%
12. sw59f38	0.4186 18%	-0.0376 02%	-0.2436 06%	0.1664 03%	0.1927 04%
13. sw55f03	0.5718 34%	-0.2788 08%	-0.1194 01%	0.0053 00%	-0.2344 05%
14. sw27f01	0.6656 43%	-0.1399 02%	0.1402 02%	-0.2005 04%	-0.1750 03%
15. nsw54f30	0.6119 37%	-0.1041 01%	0.1025 01%	0.2230 05%	-0.1795 03%
16. nsw62f40	0.4900 24%	-0.3862 18%	0.1766 03%	0.0958 01%	-0.1061 01%
17. nsw51f25	0.6732 45%	-0.2279 05%	-0.1146 01%	-0.0807 01%	-0.0239 00%
18. nsw53f31	0.7437 55%	-0.1595 02%	-0.0981 01%	0.0642 00%	0.1260 02%
19. nsw50m15	0.7163 52%	0.0441 00%	-0.0953 01%	-0.0131 00%	0.1036 01%
20. nsw54m13	0.5142 26%	-0.2446 06%	0.2635 05%	0.3729 14%	0.2669 07%

21. nsw57m21	0.4550 20%	-0.2989 10%	-0.0898 01%	0.0210 00%	0.2780 08%
22. nsw33f06	0.4622 21%	-0.2229 05%	0.1201 01%	-0.3083 10%	0.0306 00%
23. nsw38f01	0.7108 50%	-0.2262 05%	0.0352 00%	-0.2853 08%	-0.0931 01%
24. nsw47f20	0.5773 34%	-0.1873 04%	0.1569 02%	0.1043 01%	-0.1798 03%
25. nsw30f04	0.7128 50%	-0.1233 01%	-0.1556 02%	-0.1912 04%	-0.1652 02%
26. psw24f04	0.2697 07%	0.6647 43%	0.1442 02%	-0.1213 01%	-0.1041 01%
27. psw53m26	0.0703 00%	0.4707 22%	0.1020 01%	0.0046 00%	-0.0557 00%
28. psw23m01	0.1198 01%	0.6687 45%	0.0837 00%	-0.2159 05%	-0.0263 00%
29. psw47f06	0.0820 00%	0.4920 24%	0.0383 00%	-0.2481 06%	0.1041 01%
30. psw49f23	0.0894 01%	0.7088 30%	0.0289 00%	-0.0726 05%	0.1414 02%
31. psw22f05	0.0531 00%	0.5143 26%	-0.3372 11%	0.0997 01%	-0.1853 03%
32. psw36f01	-0.0055 00%	0.7587 43%	-0.1009 01%	0.1890 04%	-0.0278 00%
33. psw21f013	0.2860 08%	0.5213 27%	0.0059 00%	0.1434 02%	0.2000 04%
34. psw32f07	0.1736 03%	0.7547 56%	0.0456 00%	-0.1534 02%	0.0789 01%
35. psw25f01	0.1235 01%	0.3959 16%	0.1866 04%	0.0563 00%	-0.1267 02%
36. psw46m03	0.3224 10%	0.3787 14%	0.0774 01%	0.2267 05%	0.1324 02%
37. psw33f10	0.1396 02%	0.6584 43%	0.0839 01%	0.2551 06%	-0.2733 07%
Eigenvalues	***9.5202***	***5.7209***	***0.9420***	***1.1911***	***0.9524***
% expl var	***26%***	***15%***	***3%***	***3%***	***3%***

This table shows the extent to which each individual Q-sort is associated with each of the extracted factors (*n*=5 at this stage) before varimax rotation and optimal alignment with each study factor has taken place. The decision regarding which

factors to extract was discussed in chapter four, but the eigenvalues at the foot of the table indicate that Factors 1 and 2 are prime candidates for extraction as between them they explain 41% of the total study variance.

The percentage figures in each cell represent the factor loading in these terms (%) as an aid to interpretation. Q-sort 2 has 53% of its variance aligned to Factor 1 (specific variance) whilst Q-sort 37 has 43% of its variance aligned to Factor 2. It is also important to refer back to the discussion in chapter four regarding the application of Humphrey's Rule and its relevance to extraction decisions in conjunction with the eigenvalues and the Kaiser-Guttman criterion.

The unrotated factor matrix is the first indication of the strength of relationship that exists between all the Q-sorts and from this, one can begin to identify those Q-sorts that share similar perspectives. The figures and the percentage weightings show the extent to which particular Q-sorts (participants) share a common view built upon their responses to all of the statements in the Q-set (concourse of statements). We can see here for example that Q-sort 8 has 0.53% of its variance aligned to Factor 1, with only 0.08% accounted for by reference to the elements forming Factor 2 – its alignment to other factorial elements is even smaller. However, there is a relatively strong alignment to one factor over another, in contrast to Q-sort 3 that only has a 15% alignment to factor 1 and much less to any other. Of particular interest here is the fact that Q-sort 3 appears to be quite diffuse – it does not load on any factor in any meaningful way. This suggests that the statements within this individual Q-sort do not form any meaningful pattern that can be recognised – a diffuse perspective with perhaps no strong opinions. It is in this way that we can begin to see which Q-sorts have meaningful patterns representing strong(er) or weak(er) levels of *psychological significance*, represented here for the first time in numerical/statistical forms.

Table 5b: An illustration of differing Q-sort loadings

Q Sort	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
8. sw51f11	0.7282 53%	-0.2834 08%	0.2363 06%	-0.2159 04%	0.0525 00%
3. sw54f12	0.3995 15%	-0.2097 04%	-0.0715 00%	-0.0291 00%	-0.2474 06%

5.2.2 Cumulative Communalities Matrix

The cumulative commonalities matrix table reveals the extent of *commonality* (referred to as communality to represent similarity of the community of views) in relation to each of the Q-sorts. Communality is calculated via the sum of each Q-sort's factor loading (Brown 1980: 223-24 and see chapter four).

Table 5c: Cumulative Communalities Matrix – based on initial 5 Factor extraction to two decimal places [Appendix D3 - raw scores]

Q Sort Communality	
1. sw37f15 = 0.48	**20. nsw54m13 = 0.60**
2. sw48f05 = 0.71	21. nsw57m21 = 0.38
3. sw54f12 = 0.27	22. nsw33f06 = 0.37
4. sw45f09 = 0.52	**23. nsw38f01 = 0.65**
5. sw59f15 = 0.38	24. nsw47f20 = 0.44
6. sw61f18 = 0.55	**25. nsw30f04 = 0.61**
7. sw55f33 = 0.73	**26. psw24f04 = 0.56**
8. sw51f11 = 0.71	27. psw53m26 = 0.24
9. sw36m03 = 0.55	**28. psw23m01 = 0.51**
10. sw53m22 = 0.43	29. psw47f06 = 0.32
11. sw55f13 = 0.60	**30. psw49f23 = 0.54**
12. sw59f38 = 0.30	31. psw22f05 = 0.42
13. sw55f03 = 0.47	**32. psw36f01 = 0.62**
14. sw27f01 = 0.55	33. psw21f013 = 0.41
15. nsw54f30 = 0.48	**34. psw32f07 = 0.63**
16. nsw62f40 = 0.44	35. psw25f01 = 0.22
17. nsw51f25 = 0.52	36. psw46m03 = 0.32
18. nsw53f31 = 0.61	**37. psw33f10 = 0.60**
19. nsw50m15 = 0.53	***% expl Var = 50%***

This gives us an opportunity to gauge to what extent the view of any given Q-sort is similar to all other Q-sorts - the higher the score, the more typical is the Q-sort and the more it holds in common with all the other Q-sorts (common variance). Conversely, the lower the score, the more at odds is the individual Q-sort with the overall configuration, and therefore the more likely it is that these respondents may express very different views from the majority (Brown 2006). In this regard, the loadings here indicate which Q-sorts might be worthy of particular scrutiny in relation to their communality. Those Q-sorts in **bold** have more than 50% of their variance accounted for by reference to *common variance* (i.e: that held across all the Q-sorts) and can therefore be said to be more 'typical' of the common views impressed.

We can see that Q-sorts #2, #7, #8, #9, #11, #14, #17, #18, #19, #20, #23, #25, #26, #28, #30, #32, #34 and #37 have more than half of their variance in common with the other Q-sorts in the group. These Q-sorts are therefore *typical* – those with low communality are *atypical* as they display and share less in common with the other Q-sorts. As a result, their particular configurations may yield interesting interpretive results later on.

5.2.3 Rotated Factor Matrix [Factor matrix with an 'x' indicating a defining sort]

The loadings here demonstrate the extent to which each Q-sort is associated with each of the extracted study factors (n=2) based on the extraction criteria of eigenvalues, the Kaiser-Guttman criterion and Humphrey's Rule. Q-sorts that load statistically *on only one factor* are said to be 'defining'; other Q-sorts may have a high loading on a particular factor, but as they load significantly on more than one factor (and are therefore *confounded*), they are not said to be 'defining'.

Table 5d: [Rotated] Factor Matrix with an 'x' indicating a [Statistically] defining sort [two decimal places] [Appendix D4 – raw scores]

Q Sort	Factor 1	Factor 2	Q Sort	Factor 1	Factor 2
1. sw37f15	0.55x	-0.22	20. nsw54m13	0.51	-0.24
2. sw48f05	0.74	-0.33	21. nsw57m21	0.46x	-0.30
3. sw54f12	0.40x	-0.21	22. nsw33f06	0.46x	-0.22
4. sw45f09	0.67x	-0.16	23. nsw38f01	0.71x	-0.23
5. sw59f15	0.50	-0.34	24. nsw47f20	0.58x	-0.19
6. sw61f18	0.59	-0.43	25. nsw30f04	0.71x	-0.12
7. sw55f33	0.61	-0.26	26. psw24f04	0.27	0.66x
8. sw51f11	0.73x	-0.28	27. psw53m26	0.07	0.47x
9. sw36m03	0.63x	-0.04	28. psw23m01	0.12	0.67x
10. sw53m22	0.57x	-0.12	29. psw47f06	0.08	0.49x
11. sw55f13	0.62	-0.35	30. psw49f23	0.09	0.71x
12. sw59f38	0.42x	-0.04	31. psw22f05	0.05	0.51
13. sw55f03	0.57x	-0.28	32. psw36f01	-0.01	0.76x
14. sw27f01	0.67x	-0.14	33. psw21f013	0.29	0.52x
15. nsw54f30	0.61x	-0.10	34. psw32f07	0.17	0.75x
16. nsw62f40	0.49	-0.39	35. psw25f01	0.12	0.40x
17. nsw51f25	0.67x	-0.23	36. psw46m03	0.32	0.38x
18. nsw53f31	0.74x	-0.16	37. psw33f10	0.14	0.66x
19. nsw50m15	0.72x	0.04	***Eigenvalues***	***9.62***	***5.55***
			% expl Variance	***26%***	***15%***

[By-Hand Factor 1 and Factor 2 Rotation – 18 degrees clockwise – Appendix 9 Varimax Rotation – Appendix 10.]

The two study factors selected account for 29 of the 37 completed Q-sorts i.e. 29 of the 37 Q-sorts align themselves *significantly* to the two extracted factors (Appendix D9 – Factor Characteristics). This outcome supports the extraction of two factors as discussed above using the eigenvalues, Humphrey's rule and the Kaiser-Guttman criteria. In addition, we should note that the varimax rotation of the factors by PQMethod has altered the eigenvalues slightly, evidencing the function

of rotation to further *focus* the alignment of factors: Factor 1 has *increased* to 9.62 (from 9.52), whilst Factor 2 has *decreased* from 5.72 to 5.55.

The rotated factor matrix provides a computational 'solution' (PQROT[7] in PQMethod) in relation to the optimal alignment of Q-sorts to factors. In addition, it is possible to undertake *by-hand* rotation whereby a purely visual operation is undertaken rather than using only numeric outputs. This is referred to as 'theoretical' or 'judgemental' rotation in contradistinction to statistical rotation (Brown and Robyn 2004). Appendix 10 shows the varimax outputs at zero-degrees rotation – the default position for the computational rotation. In order to determine whether any further alignment of the two extracted factors might be worthwhile, theoretical rotation of 18° was undertaken (Appendix 9). However, it can often be the case that theoretical or by-hand rotation adds little, if anything, to the varimax rotation, although its possibilities should not be ignored:

> *"It often happens that the computer's rotational solution is theoretically acceptable, a happy accident that saves much time. In instances in which this is not the case, however, the investigator should feel free to pursue his own rotational solution along the lines presented previously. There are no clear-cut guidelines for judgmental rotation since the "best" solution often depends on what has occurred in the study up to this point. In a sense, theoretical rotation provides an operational basis for what Poincare (1952) has called "the selection of facts." Nature does not automatically distinguish important from unimportant facts, which only gain their status within the context of a theory. Consequently, as Poincare says, we must know how to select, and "just as the artist selects those features of his sitter which complete the portrait and give it character and life," so the scientist selects those facts best suited to contribute to "the sense of the harmony of the world" (Poincare, 1952: 22)."* (Brown 1980: 261).

[7] In the PQMethod programme, the acronym PQROT is used to denote the varimax rotational function of the programme – ROT = rotate.

As can be seen from both Appendix 9 PQROT at 18° clockwise rotation, and Appendix 10 at 0° rotation (automatic default) of the Q-sorts[8], the clusters are quite distinct and remain so after by-hand rotation. Their rotation around the axes serves only to move their position relative to the poles of the axes, rather than moving any of the Q-sorts into a different factorial alignment or altering their loadings. As a result, theoretical or by-hand rotation served no practical purpose. Thus, the varimax solution in PQROT is acceptable in terms of providing the appropriate factor solution (Watts and Stenner 2012: 126).

The above tables illustrate how the original 2,183 correlations between all 37 Q-sorts have been analysed, reduced and focused to identify 185 relationships (unrotated factor matrix x 5 factors) then, following the extraction of the two study factors based on the selection criteria, to 74 (rotated factor matrix – Appendix D2). On the basis of the identification of significant portions of meaning and the extent to which the Q-sorts load exclusively on one or other factor ('defining') or are confounded (they load on more than one factor – no exclusivity), we are then able to proceed to the analysis of the Q-sorts and their loadings on individual items (statements) and identify the particular *configuration* of statements that constitute each of the study factors as represented by the composite factor arrays. The *factor scorings* for each statement are the means by which the array is configured, using factor Z-scores for each statement to ensure accurate ranking and rating. We have two factors and hence two factor arrays. These represent the views of all 37 participants on each statement and fall into two distinct groups.

So far, the statistical data has provided us with information regarding the extent of the relationships between the 37 Q-sorts and within this, the strength of those relationships, statistically speaking. The various procedures and processes within PQMethod have then reduced the data and identified two distinct groupings and two statistically significant shared portions of meaning – the study *factors*. The

[8] It is the Q-sorts and their clusters that are rotated about the axes, which remain fixed.

following tables now focus on the Q-set – the 60 statements (Appendix 4) that each of the 37 participants rated across the range -5 through zero to +5 under the forced-choice condition of instruction (Appendix 3 and Appendix 6 and chapter four for the explanation of this) which have now been reduced and aligned to two categories (the study factors). On the basis of the Q-sort rankings (-5 > +5) we are able to determine the strength of meaning attributed to each statement by each individual and by the group as a whole. We are then able to see, interrogate and interpret these rankings, displayed as the *factor arrays* below, to provide us with a picture of the *meaning* these 37 professional social workers have impressed upon these statements regarding the topic of inquiry – knowledge use in social work. These arrays tell us what these 37 professionals think both individualistically and as a group about this topic and what each of these statements means to them. The identification of two distinct groupings tells us that as individuals they have differential degrees of allegiance and alliance to these two positions, based on the degree to which they agree with other participants (or not), identified statistically by reference to both Z-scores and Q-sort values. This information provides us with the means to interpret these and extrapolate from them regarding a range of issues on this topic. Further analysis of individual Q-sorts based on individual rankings are also analysed and interpreted by reference to the emergent factor narratives, comments provided post-Q-sort and demographic information. These sources provide additional information from a phenomenological perspective, but also provide a means of data triangulation.

5.2.4 [Normalised] Factor Q-scores for Factor 1 with Z-scores [Ranked] [Appendix 1d, 1e etc – raw scores]

Table 5e is comprised of the following PQMethod output files: ‘Factor scores with corresponding ranks’ (Appendix D6); ‘Factor scores – for Factor 1’ (Appendix D7), and ‘Distinguishing statements for Factor 1/2’ (indicated by * = significance at $p<0.01$) (Appendix D13) and ‘Factor Q-Sort Values for each statement’ (Appendix D11) and provides the detail of each of these with its corresponding Z-score (which determines its rank order) and its Q-sort value (-5 through +5).

The statements are identified alpha-numerically. This is a product of the input limitations of PQMethod in relation to entering data. PQMethod only allows for a relatively small number of characters to be entered to describe the statement, and as the statements were quite long, it was decided to use letters to identify them. These can be cross-checked by reference to the *Concourse of Statements* (Appendix 4). PQMethod assigns the number (1 being the first statement inputted, then 2 etc.). This table focuses on those participants whose Q-sorts were statistically aligned to the first group – Factor 1, as determined by the rotated factor scores (Table 5d above). What this table identifies are all the 60 statements, rank-ordered by reference to Z-scores. This allows us to see which statements for those representing Factor 1 (*n*=25) were the most through to the least important from the perspective of the meanings impressed upon them. Table 5e, and the corresponding one for Factor 2 (Table 5h below), form the basis for the factor narratives.

Table 5e: Distinguishing [Ranked] statements at p < 0.05 for Factor 1 by Z-scores (two decimal places) where * indicates p < 0.01.

Item	Rank	Statement	Z-score (Z-SCR)	Q-Score (Q-SV)
47/uu	1	*Talking with colleagues about what I do and how I do it helps me to learn new stuff and to understand the job better*	1.78*	5
35/ii	2	*I feel confident in making decisions based on my professional judgement in most situations*	1.46*	5
8/h	5	*I use whatever knowledge I can to make things work at the time*	1.33*	4
10/j	6	*There are some things that every social worker [everyone in my job] needs to know; otherwise they couldn't do the job*	1.32*	4
40/nn	7	*A lot of useful knowledge about social work [my work] is generated from actually doing the job*	1.27*	4
3/c	8	*I do things differently depending on the situation I find myself in*	1.19*	3
4/d	11	*Specialist knowledge is essential for social work [my job/role]*	0.91*	3
43/qq	12	*Using your professional discretion is encouraged in my job*	0.85*	3
1/a	13	*Knowing how to do something is more important than just knowing about something*	0.85*	2
31/ee	14	*Kids [People] who are securely attached are less likely to have serious relationship problems*	0.78*	2

32/ff	15	*I regularly use [specialised theories and models in my assessments] theories and models of attachment in my assessments*	0.75*	2
54/bbb	18	*The Bowlby/Ainsworth/Main model of attachment [Theories about attachment] helps [help] me to understand why adults behave as they do*	0.72*	2
14/n	19	*Doing things according to the demands of the situation sits easily with me*	0.68*	1
52/zz	20	*All facts about the world and everything in it are only ever provisional: nothing is set in stone*	0.64*	1
30/dd	22	*A lot of the theories, research and other ideas that inform what I do are drawn from other disciplines and professions*	0.58*	1
44/rr	23	*I have read up on the Dynamic Maturational Model of attachment and I use it in my work [Certain types of knowledge are central to my work*	0.49*	1
56/ddd	24	*I regularly read books and research papers about developments in social work [in my job]*	0.45*	1
59/ggg	25	*A common-sense approach helps me a lot in my job*	0.44*	1
41/oo	26	*Linking theory to practice is something I do all the time*	0.36*	0
20/t	27	*I'm happy to use knowledge from any source to inform what I do so long as it seems to work*	0.19*	0
13/m	28	*My organisation invests heavily in training and staff development*	0.18*	0
22/v	31	*Clear guidelines in relation to what I need to know are essential for me*	0.07*	0
6/f	33	*It's important to be able to say what theories you used in a particular situation*	0.02*	0
37/kk	34	*Sometimes I just do what needs to be done without really thinking about it*	0.01*	0
19/s	35	*What informs my practice has to sit comfortably with what I personally believe is right*	0.00*	0
2/b	37	*New knowledge is best if it comes from your own practice and experience*	-0.14*	-1
53/aaa	38	*Notions about what constitutes social work [what my role is] often change depending on how society sees things*	-0.15*	-1
34/hh	39	*What is seen as important in terms of practice is determined more by what it costs rather than whether it does any good*	-0.16*	-1
7/g	40	*I need to understand something properly before I'll try it out*	-0.30*	-1

58/fff	41	*What I need to know depends on what I'm involved in at the time*	-0.37*	-1
15/o	42	*There are prescribed ways of doing things and seeing things - there has to be in this job*	-0.40*	-1
26/z	45	*The theory base of social work [underpinning my work] is full of stuff that's quite specific to social work [that particular role]*	-0.62*	-2
11/k	47	*There are some things in my job that cannot be brought into question-some theories, ways of doing things and the like*	-0.81*	-2
17/q	48	*I base most of what I do and how I do it on what the experts or my bosses tell me is important*	-0.95*	-2
21/u	49	*Most of what I know about social work [my job] and how to do it comes from books and policy and such like*	-1.08*	-3
60/hhh	50	*I have little confidence in research findings*	-1.16*	-3
18/r	51	*Specialist knowledge isn't necessary in my work*	-1.26*	-3
27/aa	52	*Experts and academics rather than practitioners are best placed to determine the whole issue of 'what works' in social work [in my job]*	-1.49*	-3
50/xx	53	*I feel I need to know more about procedures and how they work than I do about people and how they work*	-1.56*	-3
28/bb	54	*'Scientific' or objective knowledge is much more reliable than 'experiential' or subjective knowledge you get from practice*	-1.63*	-4
16/p	55	*For the most part I tend to ignore policy and procedure and 'go with the flow'*	-1.65*	-4
57/eee	56	*There's only so much you need to know to be a good social worker [practitioner]*	-1.69*	-4
12/l	57	*I practise 'from the book' and 'by the book'; there's no other way to do if you want to get it right*	-1.74*	-4
39/mm	58	*There's not much point in using personal knowledge about life in general and applying it to the job – it's not relevant*	-1.76*	-5
46/tt	60	*Theory and practice are like two different worlds to me*	-1.98*	-5

Table 5e above (and the corresponding table for Factor 2 – Table 5h below) provides a ranking of all items (statements) from within the Q-sort/concourse of statements and as such represents the rank ordering of each factor's 'psychological significance' for the sample population as a whole. Those participants who scored highest on Factor 1 will have rated these statements more positively and attracted a higher Z-score than those favouring a configuration aligned to Factor 2. Below is

the Factor 1 and Factor 2 interpretive narratives that should be consulted in order to contextualise these tables. In essence, for each factor (or latent variable), those items at the top of the list represent those that were agreed with the most, whilst those at the foot of the respective tables represent the converse and the most contentious for that grouping of individuals.

Table 5f: Items [statements] HIGHER in F1 than in F2

1	2	3	4
6	7	8	10
11	14	20	22
31	32	34	35
40	43	45	47
48	51	52	53
54	55	59	*n* = 27

These items are those that were ranked higher in one factor over another.

5.2.5 Consensus Statements for Factor 1

These consensus statements are those whose rankings and scores do not distinguish themselves in relation to either of the study factors and were not statistically significant. These form the basis of the composite tables below utilising the Q-values and representing a *similarity of opinion*. The ranking is simply to aid interpretation; any apparent lack of continuity between rank numbers is rectified by reference to the earlier table referring to the *distinguishing statements* for that factor.

Table 5g: Consensus statements for Factor 1 (statements that did not distinguish between ANY pair of Factors) where all are non-significant at p>0.01 and where * indicates non-significance p>0.05. [Appendix D12]

Item	Rank	Statement	Z-score (Z-SCR)	Q-Score (Q-SV)
45/ss	3	*Some children [people] become aggressive or behave strangely in order to keep themselves safe*	1.38	5
55/ccc	4	*Sharing my knowledge with others is essential in my job*	1.33	4
51/yy	9	*Knowledge of attachment theory [human development] is central to my work*	1.12*	3
48/vv	10	*I have a good understanding of attachment theory [the core theories that relate to my work]*	1.01*	3
24/x	16	*Some children [people] will deliberately deceive an adult if it helps them to stay safe*	0.74	2
25/y	17	*A lot of the knowledge I have about my job could be used in similar types of work*	0.72	2
23/w	21	*All social workers [Everyone in my role] should be able to do most types of social work irrespective of their particular specialism*	0.62*	1
38/ll	29	*Youngsters [People] who have insecure attachments usually have lots of problems*	0.16	0
33/gg	30	*I usually adapt theories to suit my purposes*	0.14	0
29/cc	32	*I am able to specifically identify what theories I am using to inform my practice at any given time*	0.04*	0
42/pp	36	*Knowing what you should do is more important than knowing what you could do*	-0.13*	-1
36/jj	43	*It's fairly clear to me what social work [my job] is all about, so having the right sort of knowledge isn't a problem*	-0.43	-2
9/i	44	*Knowing a lot about a little is better than knowing a little about a lot*	-0.60	-2
49/ww	46	*It's probably fair to say that some parents [people] who hit their children [who harm those they care for] were actually only really trying to protect them*	-0.73	-2
5/e	59	*Just doing my job on a day-to-day basis is enough to keep me up-to-date*	-1.78	-5

5.2.6 [Normalised] Factor Q-scores for Factor 2 with Z-scores [Ranked]

Table 5h is comprised of the following PQMethod output files: 'Factor scores with corresponding ranks' (Appendix D6); 'Factor scores – for Factor 2' (Appendix D8), and 'Distinguishing statements for Factor 1/2' (indicated by * = significance at p<0.01) (Appendix D13) and 'Factor Q-Sort Values for each statement' (Appendix D11) and provides the detail of each of these with its corresponding Z-score (which determines its rank order) and its Q-sort value (+5 through -5).

Table 5h: Distinguishing [Ranked] statements at p < 0.05 for Factor 2 by Z-scores (2 decimal places) where * indicates p < 0.01.

Item	Rank	Statement	Z-score (Z-SCR)	Q-Score (Q-SV)
18/r	1	*Specialist knowledge isn't necessary in my work*	1.80	5
30/dd	2	*A lot of the theories, research and other ideas that inform what I do are drawn from other disciplines and professions*	1.50	5
50/xx	3	*I feel I need to know more about procedures and how they work than I do about people and how they work*	1.41	5
44/rr	4	*I have read up on the Dynamic Maturational Model of attachment and I use it in my work [Certain types of knowledge are central to my work]*	1.39	4
37/kk	6	*Sometimes I just do what needs to be done without really thinking about it*	1.18	4
46/tt	7	*Theory and practice are like two different worlds to me*	1.13	4
17/q	8	*I base most of what I do and how I do it on what the experts or my bosses tell me is important*	1.11	3
41/oo	10	*Linking theory to practice is something I do all the time*	1.05	3
60/hhh	11	*I have little confidence in research findings*	1.00	3
56/ddd	12	*I regularly read books and research papers about developments in social work [in my job]*	1.00	3
13/m	16	*My organisation invests heavily in training and staff development*	0.75	2
39/mm	17	*There's not much point in using personal knowledge about life in general and applying it to the job – it's not relevant*	0.74	2
19/s	19	*What informs my practice has to sit comfortably with what I personally believe is right*	0.67	1

58/fff	20	*What I need to know depends on what I'm involved in at the time*	0.62	1
35/ii	21	*I feel confident in making decisions based on my professional judgement in most situations*	0.59	1
40/nn	22	*A lot of useful knowledge about social work [my work] is generated from actually doing the job*	0.57	1
15/o	24	*There are prescribed ways of doing things and seeing things - there has to be in this job*	0.46	1
57/eee	26	*There's only so much you need to know to be a good social worker [practitioner]*	0.41	0
26/z	27	*The theory base of social work [underpinning my work] is full of stuff that's quite specific to social work [that particular role]*	0.30	0
47/uu	28	*Talking with colleagues about what I do and how I do it helps me to learn new stuff and to understand the job better*	0.28	0
43/qq	29	*Using your professional discretion is encouraged in my job*	0.24	0
3/c	30	*I do things differently depending on the situation I find myself in*	0.23	0
16/p	31	*For the most part I tend to ignore policy and procedure and 'go with the flow'*	0.22	0
1/a	32	*Knowing how to do something is more important than just knowing about something*	0.16	0
12/l	33	*I practise 'from the book' and 'by the book'; there's no other way to do if you want to get it right*	0.10	0
27/aa	35	*Experts and academics rather than practitioners are best placed to determine the whole issue of 'what works' in social work [in my job]*	0.05	0
54/bbb	37	*The Bowlby/Ainsworth/Main model of attachment [Theories about attachment] helps [help] me to understand why adults behave as they do*	0.00	-1
59/ggg	38	*A common-sense approach helps me a lot in my job*	-0.18	-1
14/n	39	*Doing things according to the demands of the situation sits easily with me*	-0.20	-1
21/u	41	*Most of what I know about social work [my job] and how to do it comes from books and policy and such like*	-0.40	-1
6/f	43	*It's important to be able to say what theories you used in a particular situation*	-0.69	-2
2/b	45	*New knowledge is best if it comes from your own practice and experience*	-0.89	-2

28/bb	46	*'Scientific' or objective knowledge is much more reliable than 'experiential' or subjective knowledge you get from practice*	-1.06	-2
34/hh	48	*What is seen as important in terms of practice is determined more by what it costs rather than whether it does any good*	-1.17	-2
20/t	49	*I'm happy to use knowledge from any source to inform what I do so long as it seems to work*	-1.25	-3
53/aaa	50	*Notions about what constitutes social work [what my role is] often change depending on how society sees things*	-1.30	-3
7/g	52	*I need to understand something properly before I'll try it out*	-1.39	-3
4/d	53	*Specialist knowledge is essential for social work [my job/role]*	-1.41	-3
31/ee	54	*Kids [People] who are securely attached are less likely to have serious relationship problems*	-1.43	-4
8/h	55	*I use whatever knowledge I can to make things work at the time*	-1.54	-4
52/zz	56	*All facts about the world and everything in it are only ever provisional: nothing is set in stone*	-1.59	-4
11/k	57	*There are some things in my job that cannot be brought into question-some theories, ways of doing things and the like*	-1.66	-4
32/ff	58	*I regularly use [specialised theories and models in my assessments] theories and models of attachment in my assessments*	-1.68	-5
10/j	59	*There are some things that every social worker [everyone in my job] needs to know; otherwise they couldn't do the job*	-1.72	-5
22/v	60	*Clear guidelines in relation to what I need to know are essential for me*	-1.72	-5

See the commentary in section 5.2.4 above. The same narrative applies here but with reference to Factor 2.

Table 5i: Items HIGHER in F2 than in F1

5	12	13	15
16	17	18	19
21	25	26	27
28	30	37	38
39	41	42	44
46	49	50	56
57	58	60	*n* = 27

These items are those that were ranked higher in one factor over another (and see Table 5f above).

5.2.7 Consensus statements for Factor 2

These consensus statements are those for Factor 2 whose rankings and scores do not distinguish themselves in relation to either of the study factors and were not statistically significant. As with Factor 1 consensus statements (section 5.2.5), these form the basis of the composite tables below utilising the Q-values and representing a *similarity of opinion*.

Table 5j: Consensus statements for Factor 2 (statements that did not distinguish between ANY pair of Factors) where all are non-significant at p>0.01 and where * indicates non-significance p>0.05. [Appendix D12]

Item	Rank	Statement	Z-score (Z-SCR)	Q-Score (Q-SV)
25/y	5	*A lot of the knowledge I have about my job could be used in similar types of work*	1.18	4
55/ccc	9	*Sharing my knowledge with others is essential in my job*	1.07	3
45/ss	13	*Some children [people] become aggressive or behave strangely in order to keep themselves safe*	0.89	2
24/x*	14	*Some children [people] will deliberately deceive an adult if it helps them to stay safe*	0.79	2
51/yy	15	*Knowledge of attachment theory [human development] is central to my work*	0.78	2
48/vv	18	*I have a good understanding of attachment theory [the core theories that relate to my work]*	0.70	2
23/w*	23	*All social workers [Everyone in my role] should be able to do most types of social work irrespective of their particular specialism*	0.46	1
38/ll	25	*Youngsters [People] who have insecure attachments usually have lots of problems*	0.44	1
29/cc*	34	*I am able to specifically identify what theories I am using to inform my practice at any given time*	0.09	0
42/pp	36	*Knowing what you should do is more important than knowing what you could do*	0.03	-1
33/gg	40	*I usually adapt theories to suit my purposes*	-0.32	-1
49/ww	42	*It's probably fair to say that some parents [people] who hit their children [who harm those they care for] were actually only really trying to protect them*	-0.68	-1

36/jj	44	*It's fairly clear to me what social work [my job] is all about, so having the right sort of knowledge isn't a problem*	-0.77	-2
9/i	47	*Knowing a lot about a little is better than knowing a little about a lot*	-1.08	-2
5/e	51	*Just doing my job on a day-to-day basis is enough to keep me up-to-date*	-1.32	-3

See Table 5g above for Factor 1.

5.2.8 Descending Array of Differences Between Factors 1 and 2

This table illustrates how the use of Z-scores allows PQMethod to identify the biggest and smallest differences that hold across and between the item rankings [statements]. It is possible to determine which items were rated more positively or more negatively by which factor grouping.

Table 5k: Descending array of differences between Factors 1 & 2 [Appendix D9]

Statement	F1	F2	Difference
10/j. There are some things that every social worker [everyone in my job] needs to know; otherwise they couldn't do the job	1.32	-1.72	**3.03**
8/h. I use whatever knowledge I can to make things work at the time	1.33	-1.54	**2.87**
32/ff. I regularly use [specialised theories and models in my assessments] theories and models of attachment in my assessments	0.75	-1.68	**2.43**
4/d. Specialist knowledge is essential for social work [my job/role]	0.91	-1.41	**2.33**
52/zz. All facts about the world and everything in it are only ever provisional: nothing is set in stone	0.64	-1.59	**2.23**
31/ee. Kids [People] who are securely attached are less likely to have serious relationship problems	0.78	-1.43	**2.20**
22/v. A lot of the theories, research and other ideas that inform what I do are drawn from other disciplines and professions	0.07	-1.72	**1.79**
47/uu. Talking with colleagues about what I do and how I do it helps me to learn new stuff and to understand the job better	1.78	0.28	**1.45**
20/t. I'm happy to use knowledge from any source to inform what I do so long as it seems to work	0.17	-1.25	**1.44**
53/aaa. Notions about what constitutes social work [what my role is] often change depending on how society sees things	-0.15	-1.30	**1.15**
7/g. I need to understand something properly before I'll try it out	-0.30	-1.39	**1.09**

34/hh. What is seen as important in terms of practice is determined more by what it costs rather than whether it does any good	-0.16	-1.17	**1.00**
3/c. Some children [people] become aggressive or behave strangely in order to keep themselves safe	1.19	0.23	**0.96**
14/n. Doing things according to the demands of the situation sits easily with me	0.68	-0.20	**0.88**
35/ii. I feel confident in making decisions based on my professional judgement in most situations	1.46	0.59	**0.86**
11/k. There are some things in my job that cannot be brought into question-some theories, ways of doing things and the like	-0.81	-1.66	**0.85**
2/b. New knowledge is best if it comes from your own practice and experience	-0.14	-0.89	**0.76**
54/bbb. The Bowlby/Ainsworth/Main model of attachment [Theories about attachment] helps [help] me to understand why adults behave as they do	0.72	0.00	**0.72**
6/f. It's important to be able to say what theories you used in a particular situation	0.02	-0.69	**0.71**
40/nn. A lot of useful knowledge about social work [my work] is generated from actually doing the job	1.27	0.57	**0.70**
1/a. Knowing how to do something is more important than just knowing about something	0.84	0.16	**0.69**
59/ggg. A common-sense approach helps me a lot in my job	0.44	-0.18	**0.62**
43/gg. Using your professional discretion is encouraged in my job	0.85	0.24	**0.62**
45/ss. Some children [people] become aggressive or behave strangely in order to keep themselves safe	1.38	0.89	**0.49**
9/i. Knowing a lot about a little is better than knowing a little about a lot	-0.60	-1.08	**0.48**
33/gg. I usually adapt theories to suit my purposes	0.14	-0.32	**0.45**
51/yy. Knowledge of attachment theory [human development] is central to my work	1.12	0.78	**0.34**
36/jj. It's fairly clear to me what social work [my job] is all about, so having the right sort of knowledge isn't a problem	-0.43	-0.77	**0.33**
48/vv. I have a good understanding of attachment theory [the core theories that relate to my work]	1.01	0.70	**0.31**
55/ccc. Sharing my knowledge with others is essential in my job	1.33	1.08	**0.26**
23/w. All social workers [Everyone in my role] should be able to do most types of social work irrespective of their particular specialism	0.62	0.46	**0.16**

49/ww. It's probably fair to say that some parents [people] who hit their children [who harm those they care for] were actually only really trying to protect them	-0.73	-0.68	**-0.05**
29/cc. I am able to specifically identify what theories I am using to inform my practice at any given time	0.04	0.09	**-0.05**
24/x. Some children [people] will deliberately deceive an adult if it helps them to stay safe	0.74	0.79	**-0.06**
42/pp. Knowing what you should do is more important than knowing what you could do	-0.13	0.03	**-0.17**
38/ll. Youngsters [People] who have insecure attachments usually have lots of problems	0.16	0.44	**-0.28**
5/e. Just doing my job on a day-to-day basis is enough to keep me up-to-date	-1.78	-1.32	**-0.46**
25/y. A lot of the knowledge I have about my job could be used in similar types of work	0.72	1.18	**-0.47**
56/ddd. I regularly read books and research papers about developments in social work [in my job]	0.45	1.00	**-0.55**
13/m. My organisation invests heavily in training and staff development	0.18	0.75	**-0.57**
28/bb. 'Scientific' or objective knowledge is much more reliable than 'experiential' or subjective knowledge you get from practice	-1.63	-1.06	**-0.57**
21/u. Most of what I know about social work [my job] and how to do it comes from books and policy and such like	-1.08	-0.40	**-0.67**
41/oo. Linking theory to practice is something I do all the time	0.35	1.05	**-0.69**
19/s. What informs my practice has to sit comfortably with what I personally believe is right	-0.00	0.70	**-0.70**
15/0. There are prescribed ways of doing things and seeing things - there has to be in this job	-0.40	0.46	**-0.86**
44/rr. I have read up on the Dynamic Maturational Model of attachment and I use it in my work [Certain types of knowledge are central to my work]	0.49	1.39	**-0.89**
26/z. The theory base of social work [underpinning my work] is full of stuff that's quite specific to social work [that particular role]	-0.62	0.30	**-0.92**
30/dd. A lot of the theories, research and other ideas that inform what I do are drawn from other disciplines and professions	0.58	1.50	**-0.92**
58/fff. What I need to know depends on what I'm involved in at the time	-0.37	0.62	**-0.99**
37/kk. Sometimes I just do what needs to be done without really thinking about it	0.01	1.18	**-1.17**

27/aa. Experts and academics rather than practitioners are best placed to determine the whole issue of 'what works' in social work [in my job]	-1.49	0.05	**-1.54**
12/l. I practise 'from the book' and 'by the book'; there's no other way to do if you want to get it right	-1.74	0.10	**-1.85**
16/p. For the most part I tend to ignore policy and procedure and 'go with the flow'	-1.65	0.22	**-1.87**
17/q. I base most of what I do and how I do it on what the experts or my bosses tell me is important	-0.95	1.11	**-2.06**
57/eee. There's only so much you need to know to be a good social worker [practitioner]	-1.69	0.41	**-2.10**
60/hhh. I have little confidence in research findings	-1.16	1.00	**-2.16**
39/mm. There's not much point in using personal knowledge about life in general and applying it to the job – it's not relevant	-1.76	0.74	**-2.49**
50/xx. I feel I need to know more about procedures and how they work than I do about people and how they work	-1.56	1.41	**-2.97**
18/r. Specialist knowledge isn't necessary in my work	-1.26	1.80	**-3.06**
46/tt. Theory and practice are like two different worlds to me	-1.98	1.13	**-3.11**

5.2.9. Factor (Q-) Scores for Factor 1 and Factor 2

This table is a list of each statement with the corresponding Q-sort value noted.

Table 5l: Factor Q-sort values for each statement **[Appendix D11]**

Statement	***F1***	***F2***
1/a. Knowing how to do something is more important than just knowing about something	**2**	**0**
2/b. New knowledge is best if it comes from your own practice and experience	**-1**	**-2**
3/c. I do things differently depending on the situation I find myself in	**3**	**0**
4/d. Specialist knowledge is essential for social work [my job/role]	**3**	**-3**
5/e. Just doing my job on a day-to-day basis is enough to keep me up-to-date	**-5**	**-3**
6/f. It's important to be able to say what theories you used in a particular situation	**0**	**-2**
7/g. I need to understand something properly before I'll try it out	**-1**	**-3**
8/h. I use whatever knowledge I can to make things work at the time	**4**	**-4**
9/i. Knowing a lot about a little is better than knowing a little about a lot	**-2**	**-2**
10/j. There are some things that every social worker [everyone in my job] needs to know; otherwise they couldn't do the job	**4**	**-5**

11/k. There are some things in my job that cannot be brought into question-some theories, ways of doing things and the like	**-2**	**-4**
12/l. I practise 'from the book' and 'by the book'; there's no other way to do if you want to get it right	**-4**	**0**
13/m. My organisation invests heavily in training and staff development	**0**	**2**
14/n. Doing things according to the demands of the situation sits easily with me	**1**	**-1**
15/o. There are prescribed ways of doing things and seeing things - there has to be in this job	**-1**	**1**
16/p. For the most part I tend to ignore policy and procedure and 'go with the flow'	**-4**	**0**
17/q. I base most of what I do and how I do it on what the experts or my bosses tell me is important	**-2**	**3**
18/r. Specialist knowledge isn't necessary in my work	**-3**	**5**
19/s. What informs my practice has to sit comfortably with what I personally believe is right	**0**	**1**
20/t. I'm happy to use knowledge from any source to inform what I do so long as it seems to work	**0**	**-3**
21/u. Most of what I know about social work [my job] and how to do it comes from books and policy and such like	**-3**	**-1**
22/v. Clear guidelines in relation to what I need to know are essential for me	**0**	**-5**
23/w. All social workers [Everyone in my role] should be able to do most types of social work irrespective of their particular specialism	**1**	**1**
24/x. Some children [people] will deliberately deceive an adult if it helps them to stay safe	**2**	**2**
25/y. A lot of the knowledge I have about my job could be used in similar types of work	**2**	**4**
26/z. The theory base of social work [underpinning my work] is full of stuff that's quite specific to social work [that particular role]	**-2**	**0**
27/aa. Experts and academics rather than practitioners are best placed to determine the whole issue of 'what works' in social work [in my job]	**-3**	**0**
28/bb. 'Scientific' or objective knowledge is much more reliable than 'experiential' or subjective knowledge you get from practice	**-4**	**-2**
29/cc. I am able to specifically identify what theories I am using to inform my practice at any given time	**0**	**0**
30/dd. A lot of the theories, research and other ideas that inform what I do are drawn from other disciplines and professions	**1**	**5**
31/ee. Kids [People] who are securely attached are less likely to have serious relationship problems	**2**	**-4**
32/ff. I regularly use theories and models of attachment [specialised theories and models] in my assessments	**2**	**-5**
33/gg. I usually adapt theories to suit my purposes	**0**	**-1**
34/hh. What is seen as important in terms of practice is determined more by what it costs rather than whether it does any good	**-1**	**-2**
35/ii. I feel confident in making decisions based on my professional judgement in most situations	**5**	**1**

36/jj. It's fairly clear to me what social work [my job] is all about, so having the right sort of knowledge isn't a problem	**-2**	**-2**
37/kk. Sometimes I just do what needs to be done without really thinking about it	**0**	**4**
38/ll. Youngsters [People] who have insecure attachments usually have lots of problems	**0**	**1**
39/mm. There's not much point in using personal knowledge about life in general and applying it to the job – it's not relevant	**-5**	**2**
40/nn. A lot of useful knowledge about social work [my work] is generated from actually doing the job	**4**	**1**
41/oo. Linking theory to practice is something I do all the time	**0**	**3**
42/pp. Knowing what you should do is more important than knowing what you could do	**-1**	**-1**
43/qq. Using your professional discretion is encouraged in my job	**3**	**0**
44/rr. I have read up on the Dynamic Maturational Model of attachment and I use it in my work [Certain types of knowledge are central to my work]	**1**	**4**
45/ss. Some children [people] become aggressive or behave strangely in order to keep themselves safe	**5**	**2**
46/tt. Theory and practice are like two different worlds to me	**-5**	**4**
47/uu. Talking with colleagues about what I do and how I do it helps me to learn new stuff and to understand the job better	**5**	**0**
48/vv. I have a good understanding of attachment theory [the core theories that relate to my work]	**3**	**2**
49/ww. It's probably fair to say that some parents [people] who hit their children [who harm those they care for] were actually only really trying to protect them	**-2**	**-1**
50/xx. I feel I need to know more about procedures and how they work than I do about people and how they work	**-3**	**5**
51/yy. Knowledge of attachment theory [human development] is central to my work	**3**	**2**
52/zz. All facts about the world and everything in it are only ever provisional: nothing is set in stone	**1**	**-4**
53/aaa. Notions about what constitutes social work [what my role is] often change depending on how society sees things	**-1**	**-3**
54/bbb. The Bowlby/Ainsworth/Main model of attachment [Theories about attachment] helps [help] me to understand why adults behave as they do	**2**	**-1**
55/ccc. Sharing my knowledge with others is essential in my job	**4**	**3**
56/ddd. I regularly read books and research papers about developments in social work [in my job]	**1**	**3**
57/eee. There's only so much you need to know to be a good social worker [practitioner]	**-4**	**0**
58/fff. What I need to know depends on what I'm involved in at the time	**-1**	**1**
59/ggg. A common-sense approach helps me a lot in my job	**1**	**-1**
60/hhh. I have little confidence in research findings	**-3**	**3**

The PQMethod output file (Appendices 11 and 12) also provide a table entitled *'Factor Q-sort values for statements sorted by consensus. vs. disagreement [variance across Z-scores*]'. This is not replicated here as Tables 5g and 5j above represent this data.

5.2.10. Factor Characteristics

The PQMethod output file also provides data regarding the number of defining variables and other statistical data relating to particular statistical characteristics of each identified Factor.

Table 5m: Factor characteristics [defining variables; composite reliability; Standard Error (SE) of Factor Z-Scores [Appendix D12]

	Factor 1	Factor 2
Number of defining variables	18	11
Average reliability coefficient	0.80	0.80
Composite reliability	0.99	0.98
Standard error of Factor Z-scores	0.12	0.15

5.2.11 Factor 1 [F1] Composite Array – Ranked via Z-scores

Tables 5n and 5o below represent the F1 and F2 arrays derived from the Z-scores and provide a composite picture of how each factor would be scored in its 'ideal type'. Table 5p is an amalgam of F1 and F2 composite arrays for illustrative purposes. The descriptive factor narratives (see below) are an interpretative representation of these composite arrays.

Table 5n. Factor 1 [F1] Composite Array – Ranked via Z-scores [Appendix D13]

-5 Disagree	-4	-3	-2	-1	0 Neutral	+1	+2	+3	+4	+5 Agree
39	28	21	36	42	41	14	1	3	55	47
5	16	60	9	2	20	52	31	51	8	35
46	57	18	26	53	13	23	32	48	10	45
	12	27	49	34	38	30	24	4	40	
		50	11	7	33	44	25	43		
			17	58	22	56	54			
				15	29	59				
					6					
					37					
					19					

Table 5o. Factor 2 [F2] Composite Array – Ranked via Z-scores [Appendix D13]

-5 Disagree	-4	-3	-2	-1	0 Neutral	+1	+2	+3	+4	+5 Agree
32	31	20	6	42	57	19	45	17	44	18
10	8	53	36	54	26	58	24	55	25	30
22	52	5	2	59	47	35	51	41	37	50
	11	7	28	14	43	40	13	60	46	
		4	9	33	3	23	39	56		
			34	21	16	15	48			
				49	1	38				
					12					
					29					
					27					

Table 5p. F1/F2 Arrays Ranked via Z-scores [Appendix D13].

-5 Disagree	-4	-3	-2	-1	0 Neutral	+1	+2	+3	+4	+5 Agree
39/ 32	28/ 31	21/ 20	36/ 6	42/ 42	41/ 57	14/ 19	1/ 45	3/ 17	55/ 44	47/ 18
5/ 10	16/ 8	60/ 53	9/ 36	2/ 54	20/ 26	52/ 58	31/ 24	51/ 55	8/ 25	35/ 30
46/ 22	57/ 52	18/ 5	26/ 2	53/ 59	13/ 47	23/ 35	32/ 51	48/ 41	10/ 37	45/ 50
	12/ 11	27/ 7	49/ 28	34/ 14	38/ 43	30/ 40	24/ 13	4/ 60	40/ 46	
		50/ 4	11/ 9	7/ 33	33/ 3	44/ 23	25/ 39	43/ 56		
			17/ 34	58/ 21	22/ 16	56/ 15	54/ 48			
				15/ 49	29/ 1	59/ 38				
					6/ 12					
					37/ 29					
					19/ 27					

5.2.12 Differences and Similarities

The following tables represent a visual guide to those Q-sort values across each of the factors that indicate broad *differences* (Table 5q) and broad *similarities* (Table 5r) of opinion across statements within each of the factors and are derived from the PQMethod output file 'Factor Q-Sort Values for Statements sorted by Consensus .v. Disagreement (Variance Across Z-Scores') (Appendix D12). The purpose of these tables is to focus attention on those aspects of each factor that help to provide its context and defining features from a more phenomenological and interpretative perspective. As was mentioned above, the statistical workings are the tools by which the information that we seek to use to make meaning is presented to us. The

use of Z-scores provides a robust statistical backdrop to the hierarchical ordering of the statement rankings (Q-sort values).

In the narrative commentaries that follow each table below, a particular arrangement of numbers appears at various points in parenthesis for example (*27: +3*) or (*5: -4*). The first number is used to identify the statement from the concourse of statements, whilst the second number refers to the Q-score it was given. The scoring is based on the eleven-point scale: -5 through zero (0) to +5 as used during the Q-sort administration (see chapter four). Most numbers will be prefixed by the operator + or -, whereas those that received a zero (0) score will have no prefix. These are utilised in much the same way as citations and signpost the reader to statements supporting the claims made herein. Where a statement and its score are representative of either Factor 1 or Factor 2, this is indicated by ‘F1’ or ‘F2’. In this way, it is possible to refer to the statements and consider the level of *psychological significance* given to each statement and then what the overall pattern of the composite array may have to tell us about the topic under inquiry. What this means is down to interpretation, but what cannot be avoided is the statistical *fact* that each statement has been assigned a numerical value that is representative of its importance to the individuals concerned. Thus, subjectivity (psychological significance) is supported statistically, whilst on the basis of this the phenomenological interpretation must attempt to make meaning after the (statistical) facts. Factor scores represent ‘an attitude in action’.

Table 5q: Factor Q-Sort Values indicating a *difference* of opinion (abbreviated) [Appendix D12 – Factor Q-Sort Values for Statements sorted by Consensus .v. Disagreement

Factor Q-Sort Values indicating a difference of opinion	F1	F2
46/tt. Theory and practice are like two different worlds to me	**-5**	**4**
18/r. Specialist knowledge isn't necessary in my work	**-3**	**5**
10/j. There are some things that every social worker [everyone in my job] needs to know; otherwise they couldn't do the job	**4**	**-5**
50/xx. I feel I need to know more about procedures and how they work than I do about people and how they work	**-3**	**5**
8/h. I use whatever knowledge I can to make things work at the time	**4**	**-4**
39/mm. There's not much point in using personal knowledge about life in general and applying it to the job – it's not relevant	**-5**	**2**
32/ff. I regularly use theories and models of attachment [specialised theories and models] in my assessments	**2**	**-5**
4/d. Specialist knowledge is essential for social work [my job/role]	**3**	**-3**
52/zz. All facts about the world and everything in it are only ever provisional: nothing is set in stone	**1**	**-4**
31/ee. Kids [People] who are securely attached are less likely to have serious relationship problems	**2**	**-4**
60/hhh. I have little confidence in research findings	**-3**	**3**
57/eee. There's only so much you need to know to be a good social worker [practitioner]	**-4**	**0**
17/q. I base most of what I do and how I do it on what the experts or my bosses tell me is important	**-2**	**3**
16/p. For the most part I tend to ignore policy and procedure and 'go with the flow'	**-4**	**0**
12/l. I practise 'from the book' and 'by the book'; there's no other way to do if you want to get it right	**-4**	**0**
22/v. Clear guidelines in relation to what I need to know are essential for me	**0**	**-5**
27/aa. Experts and academics rather than practitioners are best placed to determine the whole issue of 'what works' in social work [in my job]	**-3**	**0**
47/uu. Talking with colleagues about what I do and how I do it helps me to learn new stuff and to understand the job better	**5**	**0**
20/t. I'm happy to use knowledge from any source to inform what I do so long as it seems to work	**0**	**-3**
37/kk. Sometimes I just do what needs to be done without really thinking about it	**0**	**4**

The above table represents those statements where the greatest degree of *difference* between the two factors emerged in relation to the statements. The rankings and hierarchy of difference has been computed on the basis of the Z-scores, and is therefore statistically robust. On the basis of this it is possible to see significant differences evident in relation to how theory and its relationship to practice are perceived (46: F1/-5; F2/+4), that specialist knowledge was required for social work (18: F1/-3; F2/+5) and subsequently reinforced (4: F1/+3; F2/-3) and that some type of underpinning or 'foundational' knowledge was necessary for all social workers (10: F1/+4; F2/-5). These differences are contextualised somewhat by reference to the issue of there only being a certain amount of knowledge required to be a social worker (57: F1/-4; F2/0) and by the perceived relevance of procedures and 'proceduralisation'/technical-rational approaches to practice. F2 were of the view that an understanding of procedures was more important than an understanding of people (50: F2/+5; F1/-3), suggesting a basis for a lack of spontaneity or pragmatism in their approach (8: F2/-4; F1/+4). In addition, a significant difference was evident in the importance attached to the use of personal knowledge to inform practice. F2 tended to see this as being of little value, there being little point in using it, in contrast to F1 (39: F2/+2; F1/-5). F2 also differed significantly in the way they perceived the nature of knowledge: that facts about the world are always only ever provisional was disputed (52: F2/-4; F1/+1), and the level of confidence in research findings being low perhaps underscored this (60: F2/+3; F1/-3). What was deemed to be important by practitioners was for F2 determined largely by managers (17: F2/+3; F1/-2) and by experts and academics (27: F2/0; F1/-3), although this presents itself as a different emphasis to that of the level of confidence in research – there is a sense of F2 expecting to be told 'what works' rather than finding out for themselves either through practice or by reference to research, a view supported in other ways (37: F2/+4; F1/0). A somewhat 'restricted' range of knowledge sources seems to be expected by F2 in contrast to F1 (20: F2/-3; F1/0) and talking with others not as central to the roles undertaken by F2 in contrast to F1 (47: F2/0; F1/+5). F1 tended to work in relation to the prevailing context (12: F1/-4; F2/0) but were mindful of the necessity of policy, perhaps indicative of the nature of much of the work undertaken by this group (16: F1/-4; F2/0). F2 on the other hand practised 'by the book', thus giving clarity to the otherwise apparently contradictory statement that 'clear guidelines' were not

essential for them (22: F2/-5; F1/0). F1 referred to regularly using specialist assessments, whereas F2 denied this to be so (32: F1/+2; F2/-5). This was given some support by reference to the awareness of the role of secure attachment behaviours (31: F2/-4; F1/+2).

There appear to be differences across a number of domains here: the nature of knowledge in practice; the types and the sources of knowledge; the relationship between theory, research and practice and how knowledge was used and disseminated.

Table 5r: Factor Q-Sort Values indicating a *similarity* of opinion (abbreviated) [Appendix D12– Factor Q-Sort Values for Statements sorted by Consensus .v. Disagreement (Variance Across Z-Scores)]

Factor Q-Sort Values indicating a similarity of opinion	**F1**	**F2**
49/ww. It's probably fair to say that some parents [people] who hit their children [who harm those they care for] were actually only really trying to protect them	**-2**	**-1**
29/cc. I am able to specifically identify what theories I am using to inform my practice at any given time	**0**	**0**
24/x. Some children [people] will deliberately deceive an adult if it helps them to stay safe	**2**	**2**
23/w. All social workers [Everyone in my role] should be able to do most types of social work irrespective of their particular specialism	**1**	**1**
42/pp. Knowing what you should do is more important than knowing what you could do	**-1**	**-1**
55/ccc. Sharing my knowledge with others is essential in my job	**4**	**3**
38/ll. Youngsters [People] who have insecure attachments usually have lots of problems	**0**	**1**
48/vv. I have a good understanding of attachment theory [the core theories that relate to my work]	**3**	**2**
36/jj. It's fairly clear to me what social work [my job] is all about, so having the right sort of knowledge isn't a problem	**-2**	**-2**
51/yy. Knowledge of attachment theory [human development] is central to my work	**3**	**2**
33/gg. I usually adapt theories to suit my purposes	**0**	**-1**
5/e. Just doing my job on a day-to-day basis is enough to keep me up-to-date	**-5**	**-3**
25/y. A lot of the knowledge I have about my job could be used in similar types of work	**2**	**4**
9/i. Knowing a lot about a little is better than knowing a little about a lot	**-2**	**-2**

45/ss. Some children [people] become aggressive or behave strangely in order to keep themselves safe	**5**	**2**
56/ddd. I regularly read books and research papers about developments in social work [in my job]	**1**	**3**
13/m. My organisation invests heavily in training and staff development	**0**	**2**
28/bb. 'Scientific' or objective knowledge is much more reliable than 'experiential' or subjective knowledge you get from practice	**-4**	**-2**
43/qq. Using your professional discretion is encouraged in my job	**3**	**0**
59/ggg. A common-sense approach helps me a lot in my job	**1**	**-1**

The above table represents those statements where the greatest degree of *similarity* between the two factors (groupings) emerged in relation to the statements. The rankings and hierarchy of difference has been computed on the basis of the Z-scores, and is therefore statistically robust. On the basis of this it is possible to see that both groups understand elements of theory (49: F1/-2; F2/-1: 38: F1/0; F2/+1: 24: F1/+2; F2/+2: 45: F1/+5; F2/+2) whilst both feel that they can identify the theories they are using to inform their practice (29: F1/0; F2/0) and can identify the core theories that relate to their work (48: F1/+3; F2/+2: 51: F1/+3; F2/+2) which they agree they adapt to suit their purposes (33: F1/0; F2/+1). Both factors were in agreement that they needed a *depth* of knowledge in preference to breadth (9: F1/-2; F2/-2) and that they read books and research papers regularly (56: F2/+3; F1/+1) and recognised that their organisation invested in training and development (13: F2/+2; F1/0). Both groups agreed that a generic approach to social work was important (23: F1/+1; F2/+1) and that sharing one's knowledge with others was important (55: F1/+4; F2/+3), although whether this happened in ways people felt good about is perhaps moot given some of the differences recorded in the table above. In addition, both groups felt that a lot of the knowledge they utilised was readily transferable (25: F2/+4; F1/+2). Both were similarly oriented towards a view that 'scientific' knowledge was less reliable than experiential knowledge (28: F1/-4; F2/-2) and that using professional discretion was encouraged (43: F1/+3; F2/0) whilst 'common-sense' was helpful in a general sense (59: F1/+1; F2/-1) and that being aware of context and the influence this may have on actions recognised to some extent (42: F1/-1; F2/-1), although both were of the view that knowing what one needed to know was not easy as the nature of social work was 'fluid' and

changeable (36: F1/-2; F2/-2) and as such, just doing the job was not sufficient to keep up-to-date (5: F1/-5; F2/-3).

The Q-values on these statements illustrate similarities in a range of domains regarding the nature of knowledge; the form it takes and its use and dissemination. These comparisons, and those formed on the basis of the factor narratives (see below) are at the centre of the Q-method approach. As Brown (1980) reminds us

> *"…the two factor arrays are placed side by side and compared, the differences and similarities in scores providing the bases for description and theorising…reference can be made back to the theory originally stimulating the study, or the original theory can be abandoned in favour of hypotheses reached de novo, i.e., as emergent from the data themselves."* (p 262).

5.3 Factor Interpretation from Quantitative Data

This section will discuss the main interpretative findings from the data represented above. The factor narratives are based on the author's interpretation of the factor arrays for each individual factor, and as with the commentaries on differences and similarities of opinion above, are written in such a way as to 'evidence' the interpretive aspects by reference to particular statements and the (ranked) Q-score values assigned to them.

5.3.1 Factor 1 Descriptive Narrative

Factor 1 has an eigenvalue of 9.52 and explains 26% of the variance. The average age of the participants representing F1 is 49 years old (*n*=25) whilst the mean for years qualified is 16 years.

5.3.2 Interpretation of Factor 1 Scores

Speaking with colleagues (47: +5) and sharing their knowledge (55: +4) was very important, as was the opportunity to utilise their professional judgement (35: +5)

and discretion (43: +3) in a way they felt confident with. They felt they had both the ability and the opportunity to use different types of knowledge from a range of different sources (8: +4), including that derived from day-to-day practice itself (40: +4). Respondents were likely to approach practice situations differently depending on the situation itself (3: +3), using whatever knowledge was felt to be most appropriate (8: +4) – there was no 'set' approach that should or indeed could be applied to all situations (58: -1). These 'situational' components suggest that the context within which respondents are best able to practise is one that allows for discussion, encourages autonomy and a flexibility of approach and one that values their expertise.

Respondents felt that some type of 'foundational' knowledge was important for their practice (10: +4), although this was not seen in absolute terms (11: -2) in relation either to 'Knowing that' or of 'Knowing how' (15: -1). Respondents also believed that there was a need to have as much knowledge as possible (57: -4) as simply 'doing the job' (5: -5) was not, in itself, enough. However, there was a definite need for specialist knowledge (4: +3; 51: +3; 48: +3) and respondents felt that they regularly used such knowledge (32: +2; 18: -3). Other statements (45: +5; 31: +2; 24: +2; 54: +2; 44: +1; 38: 0) all support the presence, importance and use of (highly) specialised knowledge and skills within the context of day-to-day practice. These practitioners are clearly not 'theory-less' in relation to their actions although where theoretical constructs challenged particular value structures, the issues were perhaps less clear (49: -2), particularly in areas of emotive practice. The importance attached to the application of theory to practice and of the need to recognise the importance of doing this (46: -5) was clear, as was the value attached to experiential and other forms of knowledge (39: -5; 28: -4; 21: -3) including that derived from research (56: +1; 60: -3; 41: 0). However, F1 respondents were clear that all knowledge was provisional (52: +1) which perhaps moderates any sense of indifference towards the source and credibility of their knowledge and highlights the importance of context in all domains for these respondents. Aligned to this is the importance of respondents being able to specifically identify and apply (1: +2) particular types of knowledge and theories (29: 0; 6: 0) to inform practice, wherever this may arise from (27: -3; 17: -2), although a significant arbiter as to the value of

such knowledge and practice was its relevance to and impact upon people (50: -3). However, respondents in no way sought to 'idealise' their own individual practices and sources of experiential knowledge without due consideration (2: -1) being given to its relevance and utility (58: -1; 34: -1) and similar thought being given to whether they understood the situation sufficiently before acting (7: -1), although spontaneity was seen as inevitable at times (37: 0). However, that this spontaneity might be 'bounded' is strongly implied by reference to the need for guidelines (22: 0) and the presence of an ethical base underpinning the application of tacit and other forms of experiential knowledge (19: 0; 42: -1). However, the issue of having clear guidelines should not be taken to imply that practice was seen simply as the application of procedure (12: -4; 16: -4). Rather, knowing the parameters for practice, particularly in childcare social work, was essential (10: +4), although what practitioners felt they needed to do and how they ought to do it was very much an issue of context-dependence (17: -2; 8: +4).

Being able to respond to the demands of the situation (14: +1), whatever they might be (23: +1) and feeling able to adapt knowledge to suit each particular situation (3: +3; 33: 0) was clearly important for these respondents (16: -4; 12: -4). In addition, feeling able draw on a range of knowledge and theories, irrespective of whether this was specifically of and for social work (26: -1) was seen as essential (30: +1; 59: +1), as was transferable knowledge (25: +2) and recourse to experiential knowledge previously used successfully in practice (40: +4; 20: 0). These responses suggest that practitioners were comfortable with a more eclectic approach in terms of knowledge acquisition, use and development. In addition, having both breadth and depth of knowledge was valued (9: -2) as was the awareness that knowledge needs to be adapted and adaptable as the nature of the broader social work task was seen to change (36: -2), although this was not seen as being a purely 'reactive' stance (53: -1). In addition, the organisational and broader structural contributions to knowledge and practice were seen as being valuable with respondents recognising the role of training (13: 0), although there was a strongly felt sense of practitioners being more reliant upon their own knowledge-finding resources and other available structures and mechanisms over and above the contributions of training (8: +4; 15: -1).

5.3.3 Factor 2 Descriptive Narrative

Factor 2 has an eigenvalue of 5.72 and explains 15% of the variance. The average age of the participants representing F2 (n=12) is 33 years old whilst the mean for years qualified is 7.5 years.

5.3.4 Interpretation of Factor 2 Scores

F2 respondents were of the view that specialist knowledge wasn't necessary within their work (18: +5; 23: +1; 4: -3) and that much of what they needed to know was transferable (25: +4) and could be drawn from a range of other disciplines and professions (30: +5; 26: 0). This appears to eschew any sense of specialist knowledge being essential in terms of underpinning their practice. The use of personal and other forms of experiential knowledge tended to be seen as being less of an option/less favourable (17: +3; 39: +2; 2: -2) although the perceived value/utility of such forms of knowledge was seen quite differently (28: -2; 19: +1; 40: +1). However, there seemed to be an issue regarding how practice-based/experiential and other 'new' knowledge could be effectively disseminated and transferred (2: -2) or indeed used (5: -3).

What F2 respondents did and how they did it appears to be dominated by reference to procedural requirements (50: +5; 15: +1), practising 'from the book and by the book' (12:0) and acting in accordance with what experts or their bosses advised (17: +3). This appeared to influence the way in which respondents approached the use of knowledge and adds some context to other expressed views relating to what types of knowledge were seen as being important. Many felt that using knowledge from any source so long as it was likely to work was something to be avoided (8: -4; 20: -3) or approached with caution (58: +1; 27: 0; 1: 0). Operating within and in response to the demands of the situation was somewhat uncomfortable for F2 respondents (3: 0; 42: -1; 14: -1; 59: -1), particularly where this seemed to imply a move away from stated procedure (12: 0; 27: 0; 50: +5; 15: +1). This suggests that the knowledge used by F2 respondents was that 'given' to them in the shape of

procedures and other mandated forms – a preference it seems for ‘propositional’ and ‘procedural’ knowledge effectively ‘produced’ by the organisation.

Sharing knowledge with others and talking with colleagues helped respondents to understand their roles and their practices (55: +3; 47: 0), particularly as some felt unclear about the nature of the social work task/their role at times (36: -2) even though the broad nature of this was felt to be rather ‘fixed’ and somewhat disconnected from what was happening in society (53: -3). This seemed to restrict some people in terms of how much (57: 0; 9: -2) and what they felt they needed to know (46: +4; 18: +5; 50: +3) and whether they actually needed to understand something (15: +1), or just to respond to situations as instructed/expected (7: -3; 42: -1) without thinking things through (37: +4). The use of professional judgement and discretion was seen as being an important aspect of practice (35: +1; 40: +1; 43: 0; 3: 0; 16: 0; 34: -2), although the respondent’s sense of being able to use this was muted (15: +1; 33: -1; 14: -1). Respondents were of the view that their roles and functions were somewhat fixed (52: -4; 7: -3; 4: -3) and imposed upon them (32: -5; 20: -3; 14: -1; 15: +1; 39: +2; 50: +5), but felt that what they actually needed to know was something they should determine for themselves within these parameters (22: -5; 11: -4; 21: -1), even though what they felt they needed to know seemed to be quite specific to their role (10: -5) rather than social work *per se* (36: -2). In this regard, earlier statements appear to suggest a context where the application of ‘propositional’ knowledge, derived from external sources (experts or managers) and translated into working procedures had negated the perceived value of respondent’s own meanings, interpretations and actions based thereon.

Respondents did try to link theory to practice (41: +3) and regularly read books and research papers (56: +3) but had little confidence in research findings (60: +3), leading to a feeling that theory and practice were quite distinct (46: +4; 6: -2). The role of academics, other experts and the role of training was acknowledged (27: 0; 13: +2) and respondents felt that they did use some specialist theories/certain types of knowledge (44: +4; 51: +2; 48: +2) and appeared to appreciate the rather sophisticated ways these might manifest themselves in practice (45: +2; 24: +2; 38:

+1; 31: -4; 49: -1; 54: -1). They did feel however that they did not use specialised assessments in their practice (32: -5) and saw little need to articulate such theory as they did use (29: 0; 6: -2), even though they were aware of it (46: +4). The notion of 'theory-less' practice appeared more to do with a lack of the felt need to explicate their rationale(s) for what they were doing rather than 'running on empty' and being unaware of the underpinning theory. In a similar way, the use of personal knowledge was seen as somewhat redundant (39: +2), even though its value was recognised (40: +1; 19: +1). This suggests that personal/implicit forms of knowing and doing are present but tend to remain not only hidden from view, and even hidden from consciousness.

5.4 Qualitative Data - Post-Q-sort Interviews (*n*=20)

As referred to earlier (chapter 4 – section 4.2.4), participants were given the opportunity to engage in a post-Q-sort semi-structured interview based on the following three questions:

1. Of the statements you placed in the 'agree'/plus [+] zone, were any of particular significance for you? Why was this?
2. Of the statements you placed in the 'disagree'/minus [-] zone, were any of particular significance for you? Why was this?
3. Did the process highlight any general issues or thoughts for you in relation to knowledge and social work?

The opportunity to do this was designed to provide an opportunity for a 'de-briefing session' so that participants might raise any issues and discuss their thoughts regarding the Q-sorting task immediately after the event. This provided possibilities for both added depth in terms of the Q-sort task and deeper insights into the meanings participants may have ascribed to certain statements, recognising the centrality of language as a potentially defining feature in their understandings, as well as ongoing feedback regarding the proceeses of data collection.

The opportunity was open to all participants, but of necessity the sampling strategy was modified to allow for *spatial sampling* (Sarantakos 2012) whereby recognition is given to the fact that participants are only temporarily available and as such, data needs to be collected before they disperse. Given that the participants from the main purposive sample (see section 4.3.4) were geographically dispersed and very busy professionals, to have suggested separate interview time as part of the overall design was felt to be impractical, and may have even been counterproductive in that participants may have considered this if in an alternative design and deemed it to be too time consuming, and would have chosen not to participate. Thus, such an opportunistic but nonetheless credible approach was justified within the confines of the overall purposive sampling strategy referred to in chapter 4.

However, some chose not to undertake this element of the study, simply acknowledging that the process was ‘interesting’. A number referred to the ‘forced choice’ aspect of the task – how difficult it felt to have to make “really difficult decisions about important things”, but said no more. Those that did agree (*n*=20) to take the time to respond to the questions referred to above made a number of comments, and these are noted below.

The process of data generation and collection involved presenting participants with a printed sheet containing the three questions and the interviewer (myself) posing each question directly to them. Their responses were noted and subsequently ‘constructed’ into more ‘fluent’ responses taken directly from the notes on the general comments made. The presentation of the interview response as a more ‘coherent’ narrative is permissible within the confines of the functions of triangulation with the quantitative results and the objectively verifiable positioning of statements on the individual Q-sort grid. The participant responses consisted primarily of statements relating to which of them were of more or less import to them – a fact easily verified by reference to the individual’s particular Q-sort. Thus, researcher bias is offset by reference to this; the role of the researcher was simply to connect and correct grammatically, not to interpret their utterances at this time;

interpretation was (and is) distinct from the data collection process, and this took place once all data (QN and QL) had been collected.

5.4.1 Qualitative Results - Participant Responses

The qualitative results from the empirical work are represented below. Each participant is referred to by their unique identifier which also appears on their Q-sort grid. In this way, it is possible to cross-refer and triangulate the quantitative and qualitative data-sets with the concourse of statements.

These responses provide important information concerning a participant's reflections of the Q-sort process and the sorting task itself insofar as it 'forces' them to make choices regarding the importance they attach to statements (or not as the case may be). Thus, these commentaries provide a rich source of additional data regarding both *process* and *product* as well as valuable data of a *contextual* nature. This contextual information can assist not only in understanding why a participant placed a particular statement in a particular place, but can reveal the presence of undelying structures and influences not readily apparent from numerical data sets. Thus, it can complement and contextualise otherwise non-significant data in important ways, particularly where particpants have rated some statements as '0' (zero). This could be seen as an indicator of indifference, when in fact it may make more meaningful sense whan set against an emergent context that may indicate the underpinning or overarching professional *zeitgeist* for that individual. It can also provide insights into the significance or otherwise of the demographic information obtained from participants – do their profiles 'make sense' in the context of this, the quantitative data and the interview data?

(PSW24f04) "*The ones about using knowledge from a number of sources. It's so important that we get to know as much as possible – social work is so diverse. The negative ones – the main one was disagreeing that scientific knowledge was of more use than practice knowledge. There's so much to get from practice – we need to make sure that's emphasised more. I feel my practice efforts are as 'scientific' as*

anything you might read in a journal. You learn so much from doing the job – that's the scientific bit! The interesting thing for me was having a chance to think about how we go about our business and really, how much we do need to know" [F2]

(SW36m03) *"What was important for me was the fact that using your professional discretion was acknowledged in the research. Too often we are told to follow procedures and this can limit how you operate. And the one linked to it about doing things according to the situation - you need to be flexible. All of mine in the minus zone were about how unclear things were. We need to question everything – and what we do and how we do it. Social work is so changeable and how we have to respond is changing all the time. It's hard to keep track of everything."* [F1]

(SW61f18) *"The one about having confidence in your own decision-making ability I strongly agreed with. I am confident because I feel supported – not just by my manager, but by the team. I've been qualified a long time so if I feel I can't make decisions, then there's something wrong. The ones I rated lower were to disagree that specialist knowledge isn't needed – there's lots of specialist knowledge and that changes too – because the other one I thought was significant but in a 'negative' sense was that social work was clear-cut – it's anything but, at least to me."* [F1]

(NSW47f20) *"It was good to see statements about social workers being able to do most things, irrespective of the type of client they worked with. And the use of theory in practice – I guess this is what we all claim to be able to do, but I do. The other ones I rated low were on training and just 'following orders' as it were. There has to be rules but we need to be clear that at the end of the day it's me that has to make the decision – or at least start the ball rolling, and that's based on knowing the people and their situations.* [F1]

(SW55f13) "*The ones about theory – especially attachment theory. In my field of work, I use that all the time. Keeping up-to-date is really important. You need to understand theory because it helps you to make sense of situations and helps folks get a sense of why things might be as they are. For me though, I thought it was important to reflect the fact that practitioners are often disregarded as experts – too often managers think they know best and won't let you get on with it…I know my stuff, theories and, probably more importantly, the families I work with. That's why I felt strongly against those other statements and they could only go in the minus zone"* [F1]

(PSW49f23) *"I think the value of research in our practice is limited. I see very little research in my work – all I see are the procedures we have to follow that map it all out. If the research is there, then it's been diluted before it gets to me. And the one about specialist knowledge was interesting – social work is generic. And the statements I disagreed with were to get across the point that the policy is there for a reason – the work I do is driven through procedure."* [F2]

(NSW30f04) *"I felt that being able to talk to my colleagues was the most important aspect of my job. This is encouraged in my team and we all do it. I also agreed strongly that knowing how to do things was more important than just knowing about things – it's not what you do that makes the difference – it's how you do it. And sometimes you don't have to do a lot. The ones that were least like what I do and how I am were about how much you needed to know because…about just doing the job – you can get by to some extent but you need to study and think about what you do."* [F1]

(SW27f01) *"To me and my practice, certain theoretical approaches are essential, but it's also about being able to do things well – knowing how to do something – how to talk to people for instance, is really, really important. The others that were rated as low reflected in some way the ones higher up. Overall it felt important to make the point that social work is a thinking and feeling activity"* [F1]

(NSW50m15) *"Talking and sharing things with your colleagues. You don't always get time to do this type of thing in supervision, so having a culture in the team that is open about what we do is really healthy, but I was interested to see comments about 'doing things by the book'. Of course we all do that, but it is important to remember that practice is situated in the here and now, so you have to be flexible. But I know that a lot of people feel that 'ticking the boxes' is what it's all about…social work by numbers."* [F1]

(SW53m22) *"Being able to respond to the situation – and feeling that it's OK to do this. That's so important in the work I do. And although I didn't put this one in the 'high 5', the one about using info from wherever was important. They all connect. Most of mine seemed to be about knowing yourself – and having the confidence to get on with things. Managers manage – practitioners practise…and how important is experience? What I learn from doing the job teaches me much more than pieces of research can, but that's seen as being unprofessional almost."* [F1]

(PSW22f05) *"There were statements about using knowledge from different places. I scored these the highest and the one about procedures. I need to understand procedures and follow them closely. I thought the statement about research needed to go low because there's not much of that in what I do – even if you agree with new ideas, the approach we adopt is just about delivering the services and the packages of care – and that needs to be the same for everybody."* [F2]

(SW37f15) *"Professional judgement – there was one about that and about talking with your colleagues. It's important to me to be able to discuss things, especially when it's getting more and more difficult out there. Having supervision and talking there is fine, but it's a different type of support you get from blethering with your colleagues. The less favourable ones for me – it didn't raise an issue, but I felt that 'going with the flow' was so important so had to disagree with that one. And the one about having enough just by doing the job – not sure that's possible, certainly not*

in my team. We all read stuff and talk to each other. Training is important and there's a lot of good stuff going on." [F1]

(PSW47f06) *"I thought it was really important for us to get training. I really enjoy that and it makes sure that I'm up to date all the time. I scored low the one about needing to understand something before you deal with it – that's almost impossible…you don't have time. All situations are different – but I guess it could mean different things to different people."* [F2]

(PSW46m03) *"Yes – the one about specialist knowledge – what we do is quite straightforward mostly. It's also important to make sure that you do what your team manager tells you. The other ones were…interesting I suppose – there are things that we all need to understand in the same way but I think it's different – sometimes things can change."* [F2]

(SW59f15) *"Knowing how to do things appropriately and with best effect – too often people think they can just follow policy and assume it'll all work out OK. That's naïve in my opinion. It's also important to recognise that social work is a highly specialised activity and as such requires thought and application. But, yes, the others…using professional discretion – that's not allowed – well, it is but it's not exactly broadcast - and I certainly feel that I have to follow the 'party line' – one that me and others sometimes think isn't right. The other one was about knowing what social work was all about – I wish! Sometimes it's one thing then it's something else. Policy changes with the wind and we're often left in the dark about why things have changed."* [F1]

(PSW33f10) *"It's important to do what is right – to do the right thing, so knowing what you should do. I linked that to what was important to me – values. On the other side - that things change so much – nothing is fixed…but we can only do the job well and make a difference if we keep up-to-date and follow the guidelines. There's*

so much information that we have to have it condensed and ready to use…how do I find out what's the latest craze in social work?" [F2]

(SW55f08) *"The plus statements – most of those were about being clear about what was expected of you – that's why guidelines are important, but the one regarding doing things by the book, I had to disagree with that because it is so simplistic. There are rules and procedures – we all know that, and one of my +5's referred to guidelines, but you have to work within these in as flexible a way as you can. We need to have more confidence in our own abilities and feel supported by managers and the system as a whole – the courts and the rest…the police…schools..."* [F1]

(NSW57m21) *"The comments I rated most important were linked to values I guess – it's OK doing what we think is the right thing, but you have to have some kind of compass. Your value base is there – assuming it's intact and working! Knowledge comes from all sorts of sources, so to be too prescriptive equates with being restrictive – that's unhelpful. As professionals, we are primarily responsible for our own actions – 'following orders' isn't going to cut it. I must be something of an anarchist though! The statements about doing what our bosses tell us, and only practising 'by the book' – they were the ones I found less easy to understand. Doing things in that way assumes 'the book' is right and the person who wrote it knows all there is to know!"* [F1]

(SW55f33) *"The main ones for me in the plus zone were about theory and practice – and in the minus zone too. I spend a lot of my time talking to students – so sharing what you know – and what you don't know is important. In terms of minus statements, the thing about theory and practice being different worlds - I'm a practice teacher, so for me, these things are so connected. They have to be – students come to me for guidance on how to integrate the two, although I know that some practitioners do find it difficult to make the links sometimes. They're often so busy…"* [F1]

(NSW53f31) *"The statements that focused on using specific theories – they were high on my list because they're sort of the backbone of what I do – attachment theory, and other stuff obviously so helps me to make sense of what I'm doing. I found the ones about not being able to use personal knowledge and theory and practice being different really interesting. For me, I had to disagree with those. I wonder if anyone put those at the top? When you're in the field, you take 'you' with you, so personal knowledge is integral to what I do…theory and practice inform each other and I always try to be informed."* [F1].

The findings from the results presented above are discussed in chapter six. It is however worth noting that it is entirely possible to undertake other forms of interview based on the participant's Q-sort grids. In order to extend and expand the range of qualitative data, one could interview participants post-Q-sort *analysis* and focus on individual responses to statements in the context of their relevance to the participant's professional environment/context. Such an approach would require further time allocated to a study, and could only take place once the intitial Q-sort analysis (quantitative) had taken place using PQ-Method. Nonetheless, the option exists, particularly relevant in those situations where *individual responses/profiles* might be of particular value. This might for example be pertinent in those situations where staff in particular organisations might provide insights into particular modes of organisational functioning. In this study however, the focus was on the overall profile based on the two professional (sub-) groups (practitioners working with children and those working with adults).

Chapter 6: Discussion

6.1 Introduction

> *'The task is not so much to see what no one yet has seen, but to think what nobody yet has thought about that which everyone sees'.*
>
> (Schopenhauer 1819/1851)
>
> *'The criteria for professional knowledge…have been largely socially determined and influenced by both broad philosophical and historical shifts which in turn have influenced the adoption of different models of practice. This changing concept of professional knowledge has resulted in an emphasis on different forms of knowledge believed to be needed by the profession in order to foster competent practice.'* (Drury-Hudson 1997: 37*).*

In this chapter I shall discuss the results and associated findings from both a statistical and an interpretative perspective, locating these within a wider discussion on professional knowledge, epistemology and pragmatism. The discussion will encompass the perceived implications of the results and findings for social work and other forms of professional practice, located within a wider philosophical framework. In addition, I will articulate and map a pragmatic epistemological framework of and for professional knowledge for social work that refers to how we ought to define knowledge, how we ought to approach its production, its transferability, its use, its development and its dissemination, conceptualising this framework as an 'engaged epistemology'. In addition, I shall consider some of the possibilities for and implications of the utilisation of such a framework from a professional and systemic perspective in relation to the impact on service delivery systems that can only function if they themselves produce knowledge in order to deliver their 'products' and function effectively. The chapter will conclude with a commentary on the perceived limitations, future possibilities and innovative features of this study.

6.2 Statistical Results

As mentioned in chapter five, the factor analytic statistical processes of PQMethod offer themselves as a functional tool for the emergence of factor arrays and the development of descriptive factor arrays, which are then subjected to interpretative analysis. The results of the statistical data analysis presented in chapter five identify two clear factors emerging from the 37 Q-sorts. As a data reduction technique, Q-method has achieved its aims and made homogenous those views that were initially heterogeneous and within this rendered visible a first person, subjective perspective on professional knowledge in social work practice. On the basis of the statistical outcomes, the factor arrays were 'converted' into factor narratives and the narrative findings of these are discussed below.

6.3 Narrative Findings

The structure of each of the factor narratives can be seen in chapter five; the interpretation of the item scores suggests a number of differences between the two factors as well as a number of similarities, and it is within this context that I will discuss the findings and comment on the significance or otherwise of these adopting an *abductive* approach to this analysis as referred to in chapter four. In doing this, I will relate the findings to extant frameworks and discussions regarding knowledge and social work (Gray, Sharland, Heinsch and Schubert 2014; Gray, Joy, Plath and Webb 2013, 2012; Gray and Schubert 2013, 2012; Gredig and Marsh 2010; Gredig and Sommerfeld 2008; Trevithick 2008; Drury-Hudson 1997) and professional practice more generally across the human services (Edwards and Daniels 2012; Edwards 2011), recognising within this that much can be gleaned from other forms of professional practice in very different areas such as seamanship (Knudsen 2009) organic farming (Baars 2010), where the theoretical and practice potentials of 'experiential science' are acknowledged: "*Recognising that there are multiple elements contributing to the process of acquiring knowledge, experiential science draws on a broad field of scientific methods thereby integrating the hermeneutic approach of social sciences and the Humanities with the established methods of contemporary natural science."* (Baars 2020 p1).

This eclectic (and essentially pragmatic) attitude helps in providing a baseline within a contemporary frame of reference before the discussion is extended by reference to pragmatism and the utilisation of two significant mechanisms – abduction (Fann 1970; Hintikka 1998; Shank 1998; Paavola 2004, 2005; Haig 2005a, 2008; Tavory and Timmermans 2014) and phronesis (Hustedde 2015; Müller 2015; Glanville 2014; Ord 2014; Petersén and Olsson 2014; Shotter and Tsoukas 2014a, 2014b; Kinsella and Pitman 2012; Spicker 2011; Thomas 2010; Long 2002; Flyvbjerg 2001; Arnaud and LeBon 2000 and see chapter four) as means to move towards a different appreciation of the definition, development, transfer and utilisation, development and dissemination of *a wider range* of knowledge in professional social work *and other forms of professional practice* (Di Bucchianico 2014; Lewin 2013; Probst and Christinck 2007). Thus, the discussion will focus on a pragmatic epistemology for professional practice, not just social work practice (Liljegren 2012), based on the view that issues regarding knowledge – its definition, production, transfer, use, development and dissemination – have principles in common with other forms of professional activity and on this basis, that the model suggested here would have traction across a range of professional disciplines.

6.4 Interpreting the Factor Narratives

The interpretation of each factor *array* into a *descriptive factor narrative* in the preceding chapter represents a holistic picture of what those participants appear to be saying about the issue of knowledge of and for social work based on their configuration of the *Q*-sort statements. It is an interpretation of the viewpoints *impressed* within the factor arrays through the particular configurations of the statements, and each of these arrays is saying something meaningful regarding the topic at hand. It must however be noted that any interpretation is just that: an interpretation. As Watts and Stenner (2012) note:

> *"An interpretation is always and forever an interpretation. It is nonetheless true that Q-methodological interpretation is a rather special case, inasmuch as your presentation (of the findings) is very thoroughly constrained by the structure of the factor array."* (p63).

The interpretations reflect and express what was *impressed* into the factor arrays, and unlike more traditional qualitative approaches that use, say, interview techniques, which interpret the participants utterances, Q-methods allows for a more rigorous approach to evolve and be applied to the participant's views. The weighting of statements by participants, along with opportunities to comment on how this felt - what they agreed or disagreed with, understood or found difficult, constitutes a twin-track approach to data collection and analysis, and in the process of interpretation one is drawing on the statistical robustness of factor analysis to augment the qualitative elements (post-Q-sort interviews) and give focus to the interpretative process by signalling its broad relevance in terms of what was of more (or less) 'psychological significance'. The configurations of the arrays are determined not by the investigator, based on his/her 'personal' preferences or ideas about what they think is most important, but by the statistical weightings of each statement relative to all others as a product of (in this case) the use of PQMethod software for the Q-factor analysis. The numbers tell us that each statement has a (statistical) weight to it and it is on this basis, and this basis alone that they are 'ranked' as representing the degree of 'psychological significance' – the import attached to it *holistically* by all participants.

Thus, the interpretative process is 'bounded' by the realities of the results and the factor arrays. Any interpretation of the *meanings* inherent within the factor *narratives*, the focus of this part of chapter six, has to reflect both coherence and congruence with the factor arrays – what was rated in what way is *objectively verifiable*. Any subsequent interpretation on the part of the investigator can be checked against the factor arrays to determine whether the meanings assigned to these are *realistic*, the issue of whether another person agrees with a particular interpretation notwithstanding of course. However, the interpretation of the factor narratives and the articulation of the meanings felt to be present must evidence a degree of congruence with the descriptive narratives recounted in chapter five, which in their turn must align meaningfully with the factor arrays, which themselves were derived from the statistical analysis. Thus, triangulation of all forms of data is evident.

At this point, I shall make comment on what I think are the underlying *meanings* represented within each factor array based on an interpretation of the descriptive factor narratives and, drawing on the factor Q-sort *differences* and *similarities* (see chapter five: Tables 5q and 5r respectively) as a starting point, discuss the significance or otherwise of these as they relate to knowledge of and for contemporary social work *and other forms of professional practice* (Messenger 2013; Edwards and Daniels 2012; Mäkitalo 2012; Nerland and Jensen 2012; Edwards 2011; Baars 2010; Knudsen 2009; Kemmis 2005; Eraut 2000, 1994). In order to maintain consistency with the overall philosophical and methodological approach of the study, I shall utilise an essentially *abductive approach* to the interpretation and analysis of the descriptive narratives as referred to in chapter four.

6.5 Making Meaning after the Fact: Meanings within the Factors

As a starting point, I shall consider the differences and similarities emerging from within the factor arrays and the descriptive narratives and consider what these may represent regarding knowledge of and for social work and other forms of professional practice. What do these differences and similarities mean, and what are these saying about knowledge of and for professional (social work) practice more generally? What are the themes and issues within each of the respective factor arrays, and what might these tell us about the relationship (if any) between the nature of the task/role and knowledge definition, production, transfer, use and dissemination? Do the socio-political, economic, organisational and broader professional contexts play a role in determining the shape and form of professional knowledge and the ways in which it is utilised? These and other themes will be considered and then located within the contemporary research and professional landscape regarding knowledge of and for social work, before discussing the shape and function of a pragmatic epistemology for social work knowledge and the potential contribution this might have in terms of the definition, production, transfer, utilisation, development and dissemination of professional knowledge in contemporary practice (Martela 2015).

As in earlier chapters, where reference is made to Q-sort statements and Q-sort values, the previous nomenclature will be adopted: statement number: Factor(s)/Q-sort value – for example, (50: F2/+5; F1/-3). Utilising this approach triangulates the data and provides a focus in capturing what the pragmatists would see as the 'surprising observation' by signposting the reader to particular statements.

6.6 Differences within the Factor Arrays

Utilising the factor *Q-sort* vales that indicate a *difference* of opinion across the two factors (based on their ranking from *z*-scores), it is possible to identify a range of themes emerging within and across the two identified factors. There are though significant areas of overlap and many of the statements can therefore be interpreted differently depending on the context within which they are read and their juxtaposition with other statements that may act to mediate a particular interpretation. In relation to the differences noted, the major themes emerging include: the relationship between *theory and practice;* the use, relevance, source and extent of different *types* and *forms of knowledge,* the utilisation of *research findings* and the role of *colleagues* as representing communities of practice. In addition, features of the particular types of practice respondents are engaged in emerge and appear to account for some of these differences.

6.6.1 Theory and Practice

One of the most striking observations is that each factor saw the relationship between theory and practice quite differently – the two factors were almost at polar extremes on this point (46: F1/-5; F2/+4). F1 respondents were clear that the integration of theory and practice was essential - almost axiomatic for them in relation to their practice, whereas F2 felt a clear divide was apparent, regarding the two as being 'like different worlds'. For F1 respondents, having a level of confidence in research findings (60: F1/-3) suggests that research *per* se is valued because it was seen as a source of new knowledge for them (57: F1/-4), although there were issues regarding its credibility, based largely upon its perceived provenance (27:

F1/-3). In contrast, F2 respondents appeared somewhat ambivalent regarding this issue (27: F2/0), although other statements suggest that the source (provenance) of knowledge for them was established and accepted (17: F2/+3). F1 saw this differently, indicating a tendency towards self-reliance (17: F1/-2; 12: F1/-4). That F1 respondents necessarily made use of specialist assessments (32: F1/+2) suggests they did utilise research findings (60: F1/-3), this interpretation being supported by reference to the fact that they also appeared to understand the specialised language inhering within those theoretical accounts incorporated into such assessments (31: F1/+2). This would support the view that F1 respondents did integrate theory into practice as the type of knowledge being referred to is not only highly specialised (18: F1/-3; 4: F1/+3) but is largely research-based (see Cassidy and Shaver 2008; Crittenden and Claussen 2000; Crittenden 2008), and it may be that given this finding, the availability and use of specialist assessment tools in this context may represent a constructive means of knowledge transfer, and could be seen to reflect and represent the potential utility of 'Mode 2' knowledge production as a viable option to be developed and enhanced within practice settings (Gibbons *et al* 1994 and see Gray and Schubert 2012). However, the status of research-based knowledge for F1 practitioners was moderated by reference to the fact that they saw the need to use whatever knowledge they felt they needed to in order to make things 'work' – whatever knowledge that might be or wherever it might be from (8: F1/+4).

By way of contrast, F2 respondents were clearly of the view that theory and practice were 'like different worlds' (46: F2/+4) and were less sure as to their use of specialist models and assessments (32: F2/-5) or the underpinning theories likely to be reflected in these (31: F2/-4), and they even had doubts as to whether they in fact needed or used any specialist knowledge at all (18: F2/+5; 4: F2/-3). However, other statements not 'significant' within the differences/similarities ratings would offset these notions as being absolute, as it would appear that F2 respondents did have specialist knowledge regarding underpinning theories (30: F2/+5), but saw their job and their role as being largely devoid of any requirement for them to utilise these. This suggests that F2 respondents did not feel their work had a strong theoretical component within the context of actual practice, in spite of regularly reading books

and research papers (56: F2/+3), and that they might therefore be occupying the 'theory-less' domain as referred to by Howe (1988), and not making use of theory as Drury-Hudson (1998) suggests *simply because they saw no need so to do* (6: F2/-2; 29: F2/0). This however could be a function of the job role itself and the nature of the tasks, rather than any inherent disregard of these elements by respondents, as other statements within the concourse suggest (46: F2/+4).

Perhaps unwittingly, F2 respondents were, within *and perhaps because of* their particular roles, simply responding to the 'packaging' of knowledge within procedures and set protocols that had all but erased from view what explicit theoretical material there might have been prior to its incorporation into the procedure(s) they adopted and implemented, thereby limiting their capacity and ability to articulate the theory and use it meaningfully (Rosen 1994). If this is the case, then their understanding of what was expected of them appears to be a function of the expectations and *meanings* attributed to these procedural forms of practice by their managers/organisations and by the specifications of their job role. These 'packages' of practice appear to contain what Geertz (1973) would see as 'webs of meaning'. This is an example of the role and relationship of the subjective meanings of different parties functioning in a different way as *inter-subjective meanings*: the intermingling of the psychological and the cultural (Vygotsky 1978; Wertsch 1985). Often unarticulated, the 'rules' of different types of social conduct (in this case, professional practice as one form of social conduct) are often present themselves as a series of 'norms' against which people determine the parameters for acceptable behaviour/practice. From a pragmatic perspective, Dewey's notion of 'mind' is apposite as this includes both individual subjectivities *and the meaning structures* of the culture(s) and social institutions that surround those individual subjectivities; in this case, those of the organisation (Dewey 1929a: 303). As Taylor notes in the context of the functional attributes of methodology and its capacity to reveal meanings within social contexts:

> '…what we are dealing with here is not subjective meaning, which can fit into the categorical grid of behavioural political science, but rather intersubjective meanings. It is not just that the people in our society all or mostly have a

> given set of ideas in their heads and subscribe to a given set of goals. The meanings and norms implicit in these practices are not just in the minds of the actors but are out there in the practices themselves, practices which cannot be conceived as a set of individual actions, but which are essentially modes of social relation, of mutual action.' (1977: 119).

This type of formulation appears to provide a plausible explanation for what F2 respondents were engaged in and with. The proceduralised practices they were expected to undertake had almost taken on a life of their own and had 'within them' established norms that appear to have the capacity to influence behavior and practice in terms of knowledge production and use. Similar phenomena are present in other fields. Engel (1980), writing about the limitations of the bio-medical model within medicine and the impact of 'unconscious' theoretical models on physicians notes that:

> 'Commonly physicians are largely unaware of the power models exert on their thinking and behavior. This is because the dominant models are not necessarily made explicit. Rather, they become that part of the fabric of education which is taken for granted, the cultural background against which they learn to become physicians. Their teachers, their mentors, the texts they use, the practices they are encouraged to follow, and even the medical institutions and administrative organisations in which they work, all reflect the prevailing conceptual models of the era.' (1980: 535).

The particular profession(al) referred to here is to some extent irrelevant – what Engel is referring to is a generalised phenomena, and one to which managers and others within institutions/organisations appear susceptible. The 'prevailing conceptual models' in this instance are those relating to the form or shape particular service provision is to take and the ways it is to be delivered.

It is however not uncommon to have to revisit the whole theory-to-practice issue - it is one that has permeated not just social work but other forms of professional practice for decades (Baars 2010; Hoffmann, Probst, and Christinck 2007) and

hinges on issues of knowledge *definition, production*, *transfer* and its *translation* for *use* in practice (Heinsch, Gray and Sharland 2015; Avby, Nilsen and Dahlgren 2014; Gray, Sharland, Heinsch and Schubert 2014; McMillin 2014; Lemay and Sá 2013; Gray, Joy, Plath and Webb 2012). The most obvious example to draw upon is the evidence-based practice (EBP) debate in terms of its genesis and appropriation in and across social work and other professions. However, it is worthy of note that this particular 'debate' has as its *primary focus* the definition, production, transfer and utilisation of *research-based* empirical knowledge, with a clear 'hierarchy' visible (Skaerbaek 2010; Goldenberg 2009; Evans 2003). Within much of the (voluminous) extant literature on EBP (Sackett *et al* 1996; Sheldon 2001; Webb 2001; Rosen 2003; Gilgun 2005; Gray, Plath and Webb 2009; Gambrill 2011; Nevo and Slonim-Nevo 2011; Gray *et al* 2012; Gray *et al* 2013; Avby, Nilsen and Dahlgren 2014; Plath 2014, Thyer 2014) reference is made to the definition, production, transfer and utilisation of other forms and types of knowledge (experiential, tacit, and personal) only *en passant*. Whilst much of the available commentary does make exhortations regarding the use other forms of knowing, it still privileges research-based knowledge and focuses its main attentions of the translation and use of this into practice with much less concern over the articulation and development of mechanisms for the translation and use of these other forms of knowing (Börjesson, Bengtsson and Cedersund 2014; Hackett and Taylor 2014; Kotzee 2014; Kothari *et al* 2012; Venkitachalam and Busch 2012; Baars 2010; Eraut 2000; Shaw and Shaw 1997; Dreyfus and Dreyfus 1986; Polanyi 1967). As a result, the EBP debate is commonly perceived as being *the only debate worth having* regarding knowledge of and for social work (and other professions) and one that social work (and other professions) must engage in so that it might address apparent shortcomings in its status and pedigree as a 'scientific' discipline (Guo 2014; Martinez *et al* 2014; Shaw 2014; Sommerfeld 2014; Guerrero 2013; Brekke 2012; Longhofer and Floersch 2012; Marsh 2012).

Views regarding the perceived centrality of knowledge derived from empirical research as being a defining criterion for seeing practice as either worthy or, in its absence, irresponsible, are often given traction by the findings of serious/significant case reviews (NSPCC 2013; Vincent 2013; Vincent and Petch 2012) that often

criticise those approaches to practice that do not appear to be wholly and explicitly evidence-based (Blom-Cooper 1985; Reder, Duncan and Gray 1993; Reder and Duncan 1999: 2004; Hammond 2001; Laming 2003: 2009; O'Brien, Hammond and McKinnon 2003; Scottish Government 2012; Bradford Children Safeguarding Board 2013; Rochdale Borough Safeguarding Children Board 2013; Coventry Safeguarding Children Board 2013). Where other forms of knowing and doing have been adopted by practitioners that appear to run counter to proceduralised and 'externalist', evidence-based approaches in situations where serious incidents or fatalities have occurred, criticism can be swift and harsh, including 'recommendations' that social workers be sent to prison (Brandon *et al* 2012; Butler and Drakeford 2012; Oxfordshire Safeguarding Children Board 2015). This is however not to say that being unable to justify one's actions by reference to important (formal) theoretical perspectives or coherent and tried and tested interventions is necessarily acceptable, particularly where there would appear to be no reference at all to such mechanisms and tools and total reliance upon 'personal style' or what Shaw refers to as the "alchemy of intuitionism" (2012: 54).

On the contrary, the complexity of much social work practice today is but one reason why theoretical applications are of particular value. The etymological root of theory derives from the term *theoria*, which means to view or behold (Howell 2013). Thus, theory represents a particular way of viewing the world, and although such perspectives may not necessarily represent the world as it actually *is,* the presence of a range of theoretical perspectives assists in helping us to understand situations and guide us in responding to them as they materialise. Whether the theory is the right theory is moot; this is where the use of professional and other forms of judgement and discretion becomes important and the application of other forms of knowing – tacit and experiential knowledge for example. These can help in contextualising the application of theory in order to maximise the 'degree of fit' in any given situation. Thus, to approach a situation in either a 'theory-less' way, or by trying to make some formal theory 'fit the facts' of a given (and unique) situation does little good. What is required is the capacity and ability to bring to bear on any given situation a range of extant theoretical perspectives and other knowledge forms derived from a range of sources that can be applied contextually with the aim

of maximising the degree of success or, in pragmatic terms, 'maximise homeostasis'. Where practitioners are criticised for not using 'preferred' forms of knowing and doing, such criticisms represent ideologically driven structural determinants regarding how we ought to define, produce, use and justify particular types and forms of knowledge within professional practice that fail to take account of the fullest range of available resources available to practitioners. If this is indeed the case, then such approaches may actually serve to *discourage* the adoption and integration of other ways of knowing and doing with a concomitant risk of *institutionalising* a proceduralised, instrumental and narrow epistemology and seeing this as the normative frame of reference. If this occurs, and is without challenge, such an approach may stifle creativity and innovation, marginalise the role of empathy and the importance of human relationships within practice and, catastrophically, be regarded as normative for contemporary professional practice thus creating a challenge to social work's value base – not just in terms of what it espouses regarding its primary purposes (IFSW 2014), but what *ought to be* in the context of how we execute forms of practice and the basis on which this is done, separating out fact (the 'what') from value (the 'how' and the 'why') (Hackett and Taylor 2014; Kotzee 2014; Longhofer and Floersch 2014; Rosiek and Pratt 2013).

6.6.2 Types and Forms of Knowledge

In relation to *types* and *forms* of knowledge, there were clear differences evident regarding the need for and presence of *underpinning* knowledge*,* the use of *propositional* and *personal* knowledge*,* and the relevance and perceived importance of *procedural* knowledge. In addition, there were discrete differences regarding both the *breadth* and *depth* of knowledge required and differences regarding the *sources* from which knowledge was obtained in order to inform practice: *experts/managers, research findings, other disciplines* and both *personal* and *practice-based knowledge*, and the value attached to this.

6.6.2.1 'Foundational' or Underpinning Knowledge

In the context of this study, notions of 'foundational' or underpinning knowledge refer to the view that certain types of knowledge have an essential quality about

them, such that its presence and content is regarded as being necessary in order to allow practitioners or other professionals to have at least a basic and working understanding of the role they are in (Stevenson 1971; Carew 1979; Philp 1979; Howe 1980; Caspi 1992; Drury-Hudson 1998; Payne 2001, 2014; Healy 2005; Cha, Kuo and Marsh 2006; Parton 2008; Trevithick 2008; Gray and Schubert 2013). This follows the position of both Hume and Wittgenstein and does not imply that such knowledge is in any way fixed or immune from being revised. The findings of this study revealed differences in relation to the extent respondents felt this to be important, which appears to say much about the changing nature of contemporary professional (social work) practice. F1 respondents were of the view that in order to function as a social worker, certain knowledge *was* essential. They felt that the absence of such could preclude people from doing the job (10: F1/+4) such was its perceived importance and pivotal influence. This represents a belief that there is a need for a corpus of knowledge to be available to all social workers, which all have both access to and possession of in order to function at what might be regarded as a 'default' or 'basic' level.

F2 respondents on the other hand felt quite differently (10: F2/-5). However, F2 views regarding this perhaps reflect a more rounded view on what the content of such knowledge should be that could usefully be seen as necessary to underpin social work in the twenty-first century. They were strongly of the opinion that what in fact informs their practice is readily drawn from other disciplines and professions (30: F2/+5; 40: F2/+1), but this they saw in finite terms (57: F2/0), further reinforcing a perception of them having a restricted and restrictive view on what counts as necessary knowledge. They themselves were however disinclined to draw on this explicitly (20: F2/-3), still being reliant on 'packages' of knowledge, the main source of which derived from managers, experts or academics (17: F2/+3; 27: F2/0). This suggests that they tended to use and rely upon forms of knowledge that were more pre-defined and 'pre-packaged', thus restricting their application of a wider range of applicable knowledge to given situations (8: F2/-4). Here again, this position may well be explicable by reference to the nature of the tasks undertaken by F2 respondents in the context of their particular form of practice.

What counts as underpinning knowledge for social work – the 'knowledge base' - has been, and continues to be widely discussed and debated as referred to above and continues to exercise the minds of the profession and academia alike (Barth *et al* 2014; Hamilton 2014; Healy 2014; McCarthy 2014), including a revival of feminist approaches (Munson and Saulnier 2014). The contemporary analogues representing the shape and content for this corpus would be curricula, content and skills guidance from professional, statutory and regulatory bodies (PSRBs) – the Scottish Social Services Council (SSSC), the Health and Care Professions Council (HCPC), the Care Council for Wales and the Northern Ireland Social Care Council, informed by the recommendations of the Social Work Reform Board (Department for Education 2010; Moriarty and Manthorpe 2014) as well as other knowledge brokers (for example, Social Care Institute for Excellence (SCIE), Institute for Research and Innovation in Social Services (IRISS)), and professional organisations (British Association of Social Work). The perceived necessity for a formalised or codified (Eraut 2000) corpus of (largely propositional) knowledge can be seen by reference to (for example), the Standards in Social Work Education (Scottish Executive 2003), the Key Capabilities in Child Care and Protection (Scottish Executive 2006; Bruce and Whincup 2012), the Professional Capabilities Framework (PCF) in England, which replaced the Health and Social Care and Health National Occupational Standards for Social Workers (the NOS), issued by The College of Social Work (The College of Social Work 2012), all of which either specify or recommend the knowledge, values and skills required of social workers, usually at the point of qualification. In addition, the (new) knowledge and skills statements for children and families and adult social workers, issued by the Office of the Chief Social Workers (Department of Health 2015; Department for Education 2014), informed as these were by reports into social work education in England (Croisdale-Appleby 2014; Narey 2014) both posit similar requirements for an essential corpus of knowledge, with the children and families statement requiring practitioners to undertake a test after their first year of practice and both statements aligning competence to contracts and terms of employment following the Assessed and Supported year in Employment (ASYE) (Skills for Care 2012).

Of interest is the fact that each of these documents, to varying degrees now recognise and articulate that there is, and has to be, a broader reach for, and range of knowledge to inform social work practice, one that takes account of that available from other disciplines and service users and carers (Gant 2012), in spite of the ways in which such organisations aim to 'standardise' and 'legitimate' professional knowledge (Nerland and Karseth 2015). In this regard, the historical debate regarding social work's status as a profession and its rather eclectic use of knowledge from a range of disciplines so articulately questioned and criticised by Flexner (1915) has proven itself to be one of the profession's strengths, certainly by current standards (Burgess 2012; Cameron and Lart 2012: 2003; Cameron *et al* 2012; Littlechild and Smith 2013; Martin 2013; Guile 2012; Williams 2012). However, these statements focus on the *types* of knowledge required – implicitly the inference is on technical *propositional* knowledge, and say less regarding the *form* these ought to take and the sources from which they might legitimately be derived, and although there is some reference to experiential knowledge and the use of intuition, there is still an emphasis on evidence *from research* (Department of Health 2015: 4; Department for Education 2014: 2), whereas there are equally strong claims made for the role of *contextual* and other forms of evidence (Brown 2015). As a result, there is still a focus on 'knowing that' in preference to the perceived relevance of 'knowing how' or 'knowing why'? (Ryle 1971/1946). It is these three types of knowing that need to comprise the purview of professional knowledge, for if we are to take seriously the issue of determining what the corpus of knowledge for the profession ought to look like, there has to be conscious and explicit engagement with the relevance of other and all forms of knowing.

6.6.2.2 Experiential Knowledge

It is instructive in light of the above comments to note that opportunities for the use of *experiential knowledge,* including that derived from personal experience (personal knowledge) as well as knowledge from practice were not seen by F2 respondents as being appropriate (39: F2/+2) in contrast to F1 respondents (39: F1/-5). F2's orientation towards a somewhat restricted knowledge use (8: F2/-4; 20: F2/-3) confirms the sense of personal knowledge (as one form of knowledge) being seen as of little value, in contradistinction to F1 (8: F1/+4; 20: F1/0), who were quite

specific about its centrality (39: F1/-5). F2 were more aligned to the use of *procedural knowledge* (50: F2/+5) (Drury-Hudson 1998), a form of *propositional* or *codified* knowledge, indicating the adoption of a form of instrumental practice regarded as normative (12: F2/0) for them and which was to some extent unquestioned (52: F2/-4). These impressions suggest that forms of experiential knowledge i.e. from practice were seen as being less than valued and therefore less or inaccessible within the context of their particular spheres of engagement. This of course does not mean that the practitioners themselves devalued it; rather that the context of knowledge use for them was oriented towards proceduralisation based on the ways in which practice was structured in their environments. This appears to create the effect of *disallowing* the use of some forms of knowledge (8: F2/-4) whilst promoting or privileging others, resulting in a rather limited (and limiting) view of what they in fact felt they needed to know in order to do their jobs effectively (10: F2/-5; 20: F2/-3; 12: F2/0). F1 respondents were in distinct contrast on all these areas – and in some, significantly so.

6.6.2.3 Tacit Knowledge

Aligned to the issues regarding experiential knowledge is the use of tacit knowledge (Polanyi 1967; Zeira and Rosen 2000; Kothari *et al* 2012; Venkitachalam and Busch 2012). Its use is strongly implied by both sets of respondents, with F2 indicating a stronger reliance on this form of knowing (37: F2/+4; F1/0). However, the assertion is, not surprisingly, implicit, but the F2 preference could be explained by reference to their broader perspective on knowledge use being more proceduralised. They may in fact simply do what they need to do without thinking about it because they don't feel the need to think about – the 'routinisation' of practice negates this as a requirement. The explicit articulation of tacit knowledge forms is very difficult – as Polanyi (1967) asserts, "*we know more than we can say*" (p4), whilst Wittgenstein (1980) noted that "*Perhaps what is inexpressible … is the background against which whatever I could express has its meaning"* (p16), a sentiment echoed by Shaw (2012) when he says "*While we may remember once being aware of the understanding necessary for action [in relation to tacit knowledge] we typically are now unable to describe the knowing that our actions reveal."* (p53).

One implication of this could be that the development of knowledge, values and skills through the 'novice-expert' continuum (Dreyfus and Dreyfus 1986; Fook, Ryan and Hawkins 2000; Eraut 2000; McPherson 2005) is potentially compromised as the transition from novice to expert presupposes, and is predicated upon, flexible and creative thinking, and within this the use of tacit and intuitive knowledge. This raises an interesting issue in relation to the current vision of and arrangements for the development of practice across the UK by the four PSRBs and other organisations as discussed above, particularly in relation to ASYE and NQSW (Newly Qualified Social Workers) initiatives (Smith, Williams and Ward 2015; Grant, Sheridan and Webb 2014; Manthorpe *et al* 2014; Welch, Lerpiniere, and Young 2014; Hussein *et al* 2013; Novell 2013; Carpenter *et al* 2012; Tighe 2011). If all forms of knowledge and knowing are not regarded equally, or some not even favourably, then do current practices that privilege particular forms of knowledge run counter to what we know about the use of experiential and tacit knowledge? This of particular moment when we consider the almost axiomatic nature of tacit knowledge, particularly as "*[It] exists in that time when action is taken that is not understood, when understanding is offered without articulation, and when conclusions are apprehended without an argument"* (Altheide and Johnson 1994 p492).

6.6.2.4 Procedural Knowledge

Another striking difference to emerge across the factors refers to the perceived importance of procedures, or as Drury-Hudson (1998) refers to it, *procedural knowledge* within the context of respondents' roles and tasks. F2 respondents felt that the use and ergo their knowledge of procedures was more central to their current practice than knowledge regarding people (50: F2/+5; F1/-3). This may well be a reflection of what I will refer to as the emergence of, and increasing presence of *organisational* social work as opposed to *professional* social work or, following Liljegren (2012), *organisational* professionalism and *occupational* professionalism (Evetts and Dingwall 2002; Evetts 2003, 2007).

The trend towards proceduralisation as a preferred mode of engagement was most marked in F2 respondents whose demographic profiles were quite different from those of F1 in that most worked in adult services and in contexts where the social work task was focused on the *commissioning of services* rather than their delivery. This may well offer a plausible explanation for this apparent preference in that the *structuring* of the social work task in such contexts by managers/the organisation represents a way of packaging knowledge such as to meet organisational/economic goals most effectively, in contradistinction to the nature of the broader social work task for F1 respondents who were predominantly working in child care and child protection settings. In this practice context, the social work task was more fluid and context-dependent in relation to appropriate responses, whereas the F2 context tended to reflect a more organised and instrumental approach to tasks that had in fact been pre-defined by others for the use of practitioners – a 'care management/commissioning' role and one that could be seen as implicitly risk-averse.

Policies and procedures that routinise practice can seek to eliminate or significantly reduce the likelihood of adverse outcomes, even where 'personalised' approaches are being adopted (Ellis 2014; Gardner 2014; Glasby 2014; Houston 2014; Lymbery 2014, 2014a, 2013, 2012; Ferguson 2012; Netten *et al* 2012) These tasks would be (pre-) determined on the basis of needs-based assessments and would result in practitioners making arrangements with service providers to deliver specified services at times/in ways discussed by them with the service recipient. Thus, the means by which services were delivered following a determination of need were more proceduralised and the social work task routinised in response to this. This type of practice context also helps to explain why F2 respondents felt that theory and practice were strongly perceived as being separate entities (46: F2/+4) - there was little need to theorise over the tasks they were involved in, as this had already been done on their behalf, although recent findings by Høybye-Mortensen (2015) and Gray, Joy, Plath and Webb (2013) in their large survey of Australian social workers suggests that for some practitioners, this is preferable. F2 respondents were somewhat sanguine regarding 'practising by the book' (12: F2/0) although this view is given more weight by reference to their apparent procedural preferences

(50: F2/+5; 16: F2/0). This finding is echoed by Gray, Joy, Plath and Webb (Ibid) who found a distinction existed between practitioners who preferred to engage with the whole EBP process, and those that did not.

This suggests that 'the book' (procedures) represents the collective consciousness in terms of ways to behave and practice based on ideologies of welfare (Hothersall 2010) and practice that are perhaps less than transparent, but that do reflect the incipient increase of managerial practices (Mearns 2014), still evident today even in relation to developments designed to enhance service user choice, involvement and 'personalisation'. One of the functions of 'the book' would appear to be to collate a range of different types of broad *technical* knowledge, codify it and package this in a particular way for practitioners to implement in a standardised manner. This 'procedural package' is likely comprised of a range of different types of knowledge, much of it empirical and research-based, but shorn of its variety, diversity and complexity, and then presented as an *organisational* procedure. In effect, an array of potential knowledge forms is blended into the most easily digestible and deliverable package.

By way of contrast, F1 respondents disagreed regarding a preference for proceduralisation (50: F1/-3; F2/+5), although they did elsewhere note that the availability of guidelines to set parameters around their practice *was* important (22: F1/0). This however points up a rather subtle distinction in terms of the nature of practice. Guidelines refer to the need to follow certain procedures in terms of certain actions that need to take place – applying for legal order for example. When applying for child protection orders or referring a child to the children's hearing system for example, practitioners have to ensure that specific processes are adhered to and specific procedures followed (Hothersall 2014). This 'boundary' delineates the extent to which practice can be wholly spontaneous and as such represents a means by which accountability can be seen to rest within certain parameters. If practitioners have 'followed the rules' so to speak, then individual responsibility for particular courses of action and the framing of risk as a normative part of the situation becomes possible.

6.6.2.5 The Use of Discretion

The distinction between ‘proceduralisation’ and the utilisation of guidelines is further highlighted relative to each of the factors when we note that F2 respondents disagree strongly about the need for guidelines for them (22: F2/-5; F1/0). If we adopt a definition of guidelines as one similar to that referred to above, then spontaneity and action in-context is wholly permissible within the frame of reference where guidelines exist and are used *to guide* (albeit in quite explicit ways in relation to certain processes) and orient practice along morally-correct and legally precise routes – as a guide to effective, ethical and legal practice. Where proceduralisation is clearly seen and/or felt to be the norm then arguably guidelines are redundant – follow the procedures and there is little use for any guidance, other than to follow and implement the procedures. This way of accounting for the response to statement 22 makes sense if proceduralised practice is the norm and discretion is actually not required. The *organisation* has done the work in relation to the function of guidelines and the relevance of discretion by incorporating these into procedure, thereby eliminating (at least in theory) any need for interpretation within the context of practice situations – discretion is not required. Evans and Harris (2004) refer to this in the context of the applicability of Lipsky’s (1980) notion of ‘street-level bureaucracy’ in social work (Evans 2010, 2011). They found in their study that both the ‘curtailment’ thesis – where discretion is curtailed because of the presence of rules and procedures – and the ‘continuation’ thesis – where discretion persists in spite of, or even because of, the proliferation of rules and procedures, had some degree of traction and conclude that the ‘all-or-nothing’ argument, where the use of professional discretion within practice is either good or bad is unhelpful, a view supported by Carey and Foster (2012) who conclude in their work concerning the implementation of ‘radical’ perspectives that some forms of ‘deviant’ social work still occur even in highly proceduralised settings. Interestingly, Høybye-Mortensen (2015) notes that in her study, the presence of theoretically-rich decision-making tools (as proceduralised form-filling) was more helpful to workers than those situations where such tools were used in the context of guidance – workers preferred to have had the work regarding theoretical interpretation done for them.

The issue of discretion relates to the issue of F1 and F2 practitioners feeling able to use whatever knowledge they felt was relevant and functional for given situations. F1 respondents were clear that they used a range of knowledge forms, emanating from a range of sources, and could apply these to practice situations. Using Drury-Hudson's typology (Drury-Hudson 1997), these would equate with *theoretical*, *empirical*, *personal*, *practice-based* (or *experiential*) and *procedural* knowledge forms. The respondent's criterion was that such knowledge 'worked' at the time (8: F1/+4; 20: F1/0). This stance may well be a reflection of the nature of the tasks engaged in (Avby, Nilsen, and Ellström 2015) – statutory child care work does have a certain 'fluidity' about it, and relational (Lymbery 2013; Ruch 2012; Hennessey 2011; Ruch, Turney and Ward 2010; Trevithick 2003) and contextual (Dunk-West 2013; Dunk-West and Verity 2013; Rogowski 2013, 2010; Coulshed and Orme 2012; Healy 2012, 2005; Mäkitalo 2012; Mullaly 2007) dimensions of this type of work are arguably more dynamic than those applying to F2 respondents whose tasks were more in commissioning and managing services rather than delivering them, reflecting a more *organisational* demeanour within their practice (Cooper 2005). F1 respondents can here be seen to reflect the underlying principles of a pragmatic approach to their practice (Petersén and Olsson 2014; Rosiek and Pratt 2013; Liljegren 2012; Smeby and Heggen 2012; Cavaleri 2004, 2008, 2011; Gredig and Sommerfeld 2008) although this was never explicitly referred to as such. This accords with the general level of misunderstanding that attaches itself to pragmatism - that it is a purely instrumental heuristic devoid of any meaningful cogency and with little capacity to function as a credible epistemology, a point discussed at length below. F2 respondents however were more likely to draw on 'codified' knowledge 'given' to them by their managers in the form of procedures and protocols (17: F2/+3; F1/-2). In addition, F2 were less concerned about what they felt they needed to know (57: F2/0; F1/-4) in order to the job, a fact perhaps best explained by reference to the proceduralisation thesis which may also offer some clarity concerning their claim that they don't feel the need to think about things – they just do it (37: F2/0; F1/-4) because they see their knowledge requirements as being determined by others (Nerland and Karseth 2015; Kavanagh 2013).

Evidence from the present study would certainly support the view that F1 practitioners valued the capacity and opportunity to use a range of *differing* forms of knowledge to inform their practice (8: F1/+4) which, coupled with a sense of being encouraged to apply discretion in what was used, when and how (12: F1/-4; 35: F1/+5; 3: F1/+3; 43: F1/+3; 42: F1/-1) allowed them a level of flexibility which was accepted as sitting within certain parameters, particularly in terms of legal processes and other procedural matters (10: F1/+4; 1: F1/+2). However, these procedural elements were not necessarily perceived as being the central driving force behind practice for F1 respondents (15: F1/-1); rather, they are perhaps a representation of a more holistic take on the interface between the dynamic nature of practice and the constructive and creative interaction of differing forms of knowing and doing, set in a broad context defined by the perceived utility and functionality of processes designed to promote the best interests of those they work with. In Scotland, the children's hearing system (CHS) (Kearney 2014; McK Norrie, K 2013a: 2013b) is generally seen as being much less adversarial than the English Court system (Liljegren, Höjer and Forkby 2014; Schmid 2014; Whitehead 2014; Whyte 2014) and although still imperfect (Thomson, McArthur and Camilleri (2015), change and reform are evident (Bambrough, Shaw and Kershaw 2014; Gupta and Lloyd-Jones 2014; Hothersall 2014), which may account for elements of this particular perception which runs counter to some views regarding childcare social work (Rogowski 2011, 2012). Timescales between referral, formal proceedings and substantive decisions are much reduced for example, thus providing practitioners with a timely focus for their actions and a felt sense of when things may be resolved. The availability of a (relatively) 'rapid' response from the CHS (in this case) to their interventions has the potential to keep experiential knowledge much more contemporary and allow reflections both 'in' and 'on' action(s) (Schön 1983) to benefit from the juxtaposition with tangible outcomes.

6.6.2.6 The Use and Value of Research Findings

One indicator of the move towards particular modes of knowledge production is that relating to research in social work – the use of research findings and the practice of research to inform professional activity and the corpus of knowledge of and for the profession. Of significance in relation to the findings in this study is that respondents

across the two factors differed in relation to the level of perceived confidence they had in such findings, with F2 having less than F1 (60: F2/+3; F1/-3). The EBP movement and its noted difficulties in terms of the *translation* of findings into usable knowledge forms (Barth *et al* 2014; Gray, Sharland, Heinsch and Schubert 2014; Armstrong *et al* 2013; Gray, Joy, Plath and Webb 2013: 2012; Luitgarden 2009) may have relevance here, although a distinction should be made between the translation of research findings into *context-relevant* knowledge (Gibbons 2000) (something EBP is criticised for *not* doing well that can be applied, as required, using professional discretion and judgement (Høybye-Mortensen 2015; Ellis 2014; Shotter and Tsoukas 2014a, 2014b; Gambrill 2011; Luitgarden 2009; Taylor and White 2001) as against EBP findings being interpreted and implemented *en masse*, diluted and shorn of specificity, such that a generalised and generic interpretation, imposed by the organisation, is all that is presented for use. This latter mode of translation essentially ignores the relevance of context and the importance of reflexivity (Alley, Jackson and Shakya 2015; McMillin 2014; Sudsawad 2007; McCormack 2002) and provides little more than generalist interpretations to be applied across the board with no opportunity for their creative use or any discernment in terms of applicability.

Such practices perhaps help to explain why some practitioners have little faith in research findings – their application is perhaps interpreted as a 'one-size-fits-all' approach that is to be imposed in practice situations– or at least that is the expectation. Weiss and Bucuvalas (1980) claimed that practitioners applied a 'truth' and a 'utility' test to research evidence before implementation, whilst Weiss (1979) refers to the influence on research acceptance and implementation of the '4 I's' – interests, ideology, information and institutions. These elements appear to resonate for the respondents in this study. Although F1 and F2 respondents showed differing degrees of confidence in such findings, with F1 generally feeling more receptive (60: F1/-3), disquiet regarding the authority of academics and experts in determining 'what works' was in evidence (27: F1/-3). This suggests that research *as new knowledge* was valued, although its source and ergo the means of its production, generalisability and applicability were in question. This suggests that F1 practitioners were able to appreciate the value of the *content* of research, but this

was compromised by reference to other factors, a point to be considered below in the context of the utilisation of a pragmatic epistemology. F2 respondents however were less concerned regarding the issues of who produced evidence to support 'what works' (27: F2/0), understandable in relation to the broader frame of reference applied to their practice (18: F2/+5; 50: F2/+5; 8: F2/-4; 52: F2/-4; 17: F2/+320: F2/-3), which was essentially procedurally driven.

In relation to these points, we can refer to the implications of 'hierarchical' inferences and assumptions espoused and promulgated by proponents of EBP and broad-based positivistic models of the world. In generally failing to acknowledge or recognise that issues relating to poor transferability, use and applicability are possible correlates of these assumptions, an unworkable and unsustainable model of knowledge production and utilisation is perpetuated. To illustrate the contemporary nature of this, I will refer to Brekke (2012) who puts forward the case for a 'science of social work' – a not unworthy exhortation in broad measure. However, his baseline is positivistic – his exemplar is the engineering model of science: "*Social Work is a goal directed profession, and our science should be as well. The following are the goals for a science of social work modelled on the goals for engineering science…"* (p462).

The argument here is contemporary; it is also redolent of those that have gone before and shows no sign of abating. So even in light of changes to research methods that are more inclusive and participatory for example, the assumption underlying these claims is that the findings of such 'social work engineering' ought to be largely predictive and generalisable across all domains. In addition, these assumptions make further assumptions that any failure of the findings in the practice context are a reflection of the failings of the practitioner, rather than a reflection of the problems some would see as inherent in such models and approaches. Contrary, and more interpretive approaches would see their assumptions about research as more akin to Hammersley's view (Hammersley 2000) of what Shaw (2014) refers to as the enlightenment model of science. Such a model sees research as "*providing resources that practitioners can use to make sense of the*

situations they face and their own behaviour, rather than telling them what is best to do." (Hammersley 2000: 393 cited in Shaw 2014: 2 – emphasis mine). These contemporary debates reflect what Shaw (Ibid: 2), in a slightly different context, refers to as 'structural arrogance'.

These findings suggest that broader structural factors and determinants perceived as flexible, facilitative and supportive (Mullaly 2007; Wormer 2007; Wormer, Besthorn and Keefe 2007) can help in encouraging the application of the widest possible forms of knowing and doing within practice. As a result, the role of the practitioner in the definition, production and the determination of how to make the best use of available knowledge should be seen as an important variable and not as a simple adjunct to the exhortations of producers of research-based knowledge and policy-makers or managers. If we are to build knowledge in the most effective way (LeCroy 2010) and contribute meaningfully to a clearly articulated, functional and inclusive 'science of social work' (Brekke 2012; Göppner 2012; Longhofer and Floersch 2012; Marsh 2012; Nurius and Kemp 2013; Anastas 2014; Shaw 2014; Sommerfeld 2014; Gehlert 2015), we must formulate and articulate a coherent, underpinning epistemological framework that allows for the inclusion and use of all forms of knowledge and knowing on an equitable footing.

6.7 Similarities Between Factors

The above then represent the main *differences* of opinion as impressed and subsequently expressed by respondents. I shall now consider the *similarities* of opinion/ areas of broad agreement that were significant across the factors.

In terms of the *similarities* across the factors, it is important to recognise the mediating and contextualising role these ratings can play. They indicate areas of commonality that in some instances moderate and add further meaning to the differences referred to earlier. The similarities of opinion referred to are a reflection of the similarities of *statistical weighting*, as was the case with the differences of opinion, but interpretative analysis will contextualise these by cross-reference to the

differences noted as well as to those statements not statistically significant enough to be included in these two categorisations. These will be referred to in order to add 'colour' and depth to the interpretations of the factor arrays (Watts and Stenner 2012:55).

Statements from the factors arrays indicating a *similarity* of opinion (based on factor *Z*-scores) alluded to issues and themes relating to: *identification and use of theory; the nature of social work practice and its tasks; the types of knowledge used* and *the sharing of knowledge with others.*

6.7.1 Theory Use

A large number of statements (eight from twenty) referred in some way or another to theory and its application. There was broad agreement across some statements that alluded to the practical manifestations or application of theory (49: F1/-2; F2/-1; 24: F1/+2; F2/+2; 38: F1/0; F2/+1; 45: F1/+5; F2/+2) indicating that respondents were attuned to its presence in practice, especially those theories felt to be 'core' to their practice (48: F1/+3; F2/+2; 51: F1/+3; F2/+2) or having a particular resonance –behaviour designed to promote safety for example (45: F1/+5; F2/+2) or rationales (accepted or otherwise) as to why people may harm others (49: F1/-2; F2/-1). However, in addition, and perhaps of more significance for the purposes of this study, was agreement that the capacity to specifically identify theories being used in practice was only evident *to some extent* (29: F1/0; F2/0) as was the capacity to adapt theories to context (33: F1/0; F2/-1).

6.7.2 The Nature of the Task and of Social Work

A number of statements are present that in some ways refer themselves to the broad nature of social work and the roles and functions undertaken by respondents. There was agreement that all social workers should be able to undertake most types of practice, irrespective of their particular specialism (23: F1/+1; F2/+1) thus implying that the core elements of the social work role and its tasks were in fact

generic. This was given further credibility by the shared and agreed view that a lot of the knowledge respondents had could, they felt, be used in similar types of work (25: F1/+2; F2/+4) with F2 respondents agreeing with this more strongly, which perhaps reflecting a greater alignment to the health and social care agenda within their roles, not unsurprising given the care management/commissioning role they had. However, both sets of respondents felt a degree of uncertainty regarding what their job and social work itself was actually about (36: F1/-2; F2/-2). This had the potential to make respondents feel unsure about what knowledge they in fact needed to undertake their role. This has implications for knowledge development, transfer and use, and in the absence of clarity about role, task and purpose, leaves practitioners unsure how to act. The potential significance of this is given added weight when juxtaposed with the agreed view that just doing one's job on a day-to-day basis was *not* sufficient to keep up-to-date (5: F1/-5; F2/-3).

6.7.3 Types of Knowledge and its Use

Respondents had similar views regarding how they undertook their roles and how they might use knowledge. Both factors agreed that knowing what they should do was *less important* than knowing what they *could* (or perhaps, ought) to do (42: F1/-1; F2/-1). This suggests that both factors saw the potentials within their practice for creativity and innovation (Pennacchia 2013). Given the emergent profile of F2 respondents within their particular roles, this suggests a desire for them in particular to be able to function more creatively, particularly as they felt drawn to procedural approaches. Creativity, and the desire for this might then be seen to have potential as both factors indicated a preference and a need for a *breadth* of knowledge over *depth* (9: F1/-2; F2/-2). However, this breadth seems to be referred to in general terms, as F1 respondents in particular certainly evidenced a depth of knowledge by reference to their use of specialist knowledge (18: F1/-3) and assessments (32: F1/+2; F2/-5).

Both factors said that they regularly engaged with books and research papers (56: F1/+1; F2/+3) as well as organisations that invested in training (13: F1/0; F2/+2), so had access to codified or propositional knowledge, but both agreed that the

reliability of such, and the confidence they had in it was less than that which they afforded to experiential or ‘subjective’ knowledge (28: F1/-4; F2/-2). Both factors therefore indicated a strong preference for an approach to practice that valued experiential knowledge. F1 had earlier indicated that they did in fact have a degree of confidence in research findings (60: F1/-3), but F2 maintained a distinct lack of faith in this regard (60: F2/+3). It would appear that the issue for F1 is not so much about the relevance of research, but the lack of confidence in the value afforded to experiential knowledge. In addition, both factors were generally agreed that the use of ‘common-sense’ was of value to them, although less so for F2 (59: F1/+1; F2/-1). However, whether or not one had discretion in what knowledge one used seemed to seemed to vary across the factors, with F1 feeling that this was encouraged, whilst F2 were less emphatic about it (43: F1/+3; F2/0). Such expressions clearly support a view that the ability to integrate different forms of knowledge, and to be able to use discretion as to how, is important.

6.7.4 Sharing Knowledge with Others

Both factors indicated agreement on the importance of sharing their knowledge with others (55: F1/+4; F2/+3), seeing it as essential. However, there was a significant difference on a related theme between the factors identified earlier that appears to identify a subtle difference in relation to practice. F1 are noted to have strong agreement with talking to colleagues about what they do as it helps them learn and understand the job better (47: F1/+5). In contrast, F2 were less inclined to see this as important (47: F2/0). Whilst both of these statements refer broadly to the issue of sharing and talking, both emphasise different aspects of this. The similarity between factors is evident in statement 55 that makes reference to sharing knowledge with others, rather than making specific mention of colleagues. In addition, the sharing of knowledge could be interpreted more widely as referring to knowledge of a situation, knowledge of an outcome or a plan - facts or information more generally, whereas statement 47 refers specifically to the act of talking with colleagues about what they do for a specific purpose – to help understanding. Thus, F2 appear to appreciate the need to share information (as do F1 and as would most professionals) but the practice of talking with colleagues about their work was

clearly less of an issue for F2. Once again, one could interpret this as being a function of the nature of the role and broader organisational context for them (Hussein *et al* 2014; McBeath and Austin 2014; Plath 2014; Whittaker 2011; Cooper 2005; Menzies-Lyth 1988) with implications for the role of supervision, team/organisational and professional cultures (Chang and Lin 2015; Nerland and Karseth 2015; Messenger 2013) cultures and the relevance and presence of communities of practice that include closer ties between academic institutions and practitioners (Bartunek and Rynes 2014; Calvert-Minor 2011; Lavoué, George and Prévôt 2011; Gannon-Leary and Carr 2010; Kakavelakis 2010).

6.8 Summary of Themes and Issues arising from Differences and Similarities

From the analysis of the descriptive factor narratives and the use of the statistically weighted differences and similarities, a number of recurrent themes can be discerned. The relationship between theory and practice in its various guises (Van De Ven and Johnson 2006) is clearly an issue and is perhaps more evident as a cause for some concern in relation to F2 respondents. Their perception is that these two domains are quite separate and likely to remain such so long as the manner in which they are expected to practice remains as it is. F1 respondents, largely functioning in much more 'fluid' environments saw the connections between theory and practice as being more intrinsic and generally felt they did use this adequately and effectively. However, if the nature of the task one is engaged in is in fact a significant mediator regarding the perception one has of the relevance and/or import of theory, both as a concept but also as a functional tool, then exhortations for practitioners to use theory without there being any consideration of this fosters a 'theory-less' approach that risks pathologising practitioners and their best efforts. It also increases the chances that practitioners will become less and less able to effectively identify and use research in a critical way and apply it according to the situation, or at all.

The nature of the social work task was identified as having traction in terms of practice and the types and forms of knowledge required and used. Both factors felt

that having a clear understanding of what social work and their respective roles were within that left something to be desired. This reflects the fact that social work is situated within a volatile landscape, often because of changing requirements and demands from government and PSRBs and changes to service user' and carer expectations, often in response to new initiatives or changes to the law. The introduction of the 'personalisation' agenda (Ellis 2014; Gardner 2014; Glasby 2014; Houston 2014; Lymbery 2014, 2013, 2012; Sims and Cabrita-Gulyurtlu 2014; Dodd 2013; Power, Lord and DeFranco 2013; Ferguson 2012; Netten *et al* 2012) and (in England) the recent enactment of the Care Act (2014) are examples of how practitioners can feel deskilled, particularly if they do not have a clear sense of what their role might be in these new arrangements, especially when new knowledge and skill sets might be required. There are implications here for the efficient and effective transfer and utilisation of knowledge and the recognition of the value of a flexible and responsive repertoire of knowledge upon which to draw.

In practice environments where *tasks* are the focus of the role (as it appears in terms of F2 respondents), it could well be argued that the nature of the task determines the means one adopts to achieve it. In the case of F2 respondents, the proceduralisation of many aspects of service-delivery, as they clearly perceived it, may compromise the need for them to engage actively with other types of forms of knowledge and its use. The service delivery structures may also have compartmentalised the required knowledge and 'packaged' it in such a way as to avoid the need for creative thinking and spontaneous action. One interpretation of this is that the nature of the tasks, and the needs of the service-users involved are perceived in a way that allows the organisation to respond to its statutory, service and financial obligations as their main priority. In the context of increasing austerity (Asenova, Bailey and McCann 2015; Carey 2015; 2014; Banks 2014; Cunningham and James 2014; Garrett 2014; Lee 2014; McDermott 2014; McKay 2014; Milbourne and Cushman 2014; Power 2014; Gray and Webb 2013; Jordan and Drakeford 2012; Beresford 2012; Slater 2012; Wright 2012) organisations are increasingly employing non-qualified or fully qualified individuals for very routine posts. In the area of adult services, the role of the Mental Health Officer (MHO) in Scotland or the Approved Mental Health Practitioner (AMHP) role in England requires many of the characteristics evidenced by F1 respondents to be extant,

whereas the assessment task, which constitutes a significant part of the care-manager's role, is increasingly being undertaken by less qualified or unqualified individuals (Samuel 2011). As a result of this compartmentalisation of role and function and the ways in which knowledge is *managed* by the organisation (Massaro, Dumay and Garlatti 2015; Deverell and Burnett 2012; Gau 2011; Downie and Loudfoot 1978) the expectations of staff regarding their own knowledge needs and requirements may well be being altered. Örtenblad (2001) provides a useful way of conceptualising this phenomena as being the difference between 'organisational learning', which refers to understanding existing processes, and the 'learning organisation' which is characterised by dynamism and the development of new and the creative use of existing organisational and other forms of knowledge (Wang and Ahmed 2003; Rowley and Gibbs 2008). The same processes can be seen to be evident in relation to initial assessments in children and families settings (BASW 2013).

The types and forms of knowledge used, preferred or perceived as being allowed or discretionary, including the use of research findings (Beddoe 2011), and the sharing of knowledge and experiences with others and with colleagues are all significant and interrelated themes (Weinberg 2015). In terms of the range of knowledge felt to be required, respondents were clear that having breadth was preferable to depth, although this should be considered in relation to the emphasis on the need for specialist knowledge – it seems that having a breadth of knowledge, with depth as required was the order of the day. The type and form of knowledge felt to be required was clearly seen as deriving from a range of other disciplines, and that such knowledge could also be used in and across a range of other settings is perhaps to be seen as a significant strength for the profession rather than a weakness (á la Flexner), given the increasing requirement to be multi-professional and trans-disciplinary in one's orientation (Petch 2013; Satterfield *et al* 2009). Brier (2000) notes in relation to this that "*…the lack of a recognised place and value of phenomenological knowledge in relation to the general mechanistic scientific ontology…still seems to be the only generally accepted background for the transdisciplinary areas to build on."* (p433). Respondents would likely endorse such a view, given that they were generally at ease with drawing and utilising knowledge from such diverse sources, at least in principal. One of the important findings from

this study is that where a particular set of tasks is used to define the role undertaken by a professional, then there appear to be interesting effects on how knowledge is perceived and used. These kinds of issues require to be considered, particularly as there are shifts in the professional terrain that are likely to *increase* the number and range of specific tasks assigned to professional staff – assessments of need under the Care Act 2014 is but one example. In spite of rhetoric surrounding the Care Act 2014, that it heralds a move away from 'care management' it is likely that the commissioning role will increase. Thus, changes to practice brought about by changes to legislation and policy, in their wake brings about changes to the type of knowledge produced and the ways in which it is, or is not, used.

Aligned to this is the use of discretion and professional judgement: it was certainly felt to be crucial for all respondents as it allowed a feeling of having a degree of control over the shape and the progression of the situation – some capacity to have a defining influence, one based on their knowledge and understanding of the situation. Witt-Hansen (1980) refers to 'situations of powerlessness' and 'postulates of impotence' fostered by the pursuit and reference to purely objective-mathematical knowledge when expected to be used as the only form of knowing. Indeed, a range of knowledge, with varied provenance and a broader external context perceived as supportive and facilitative were seen as key in supporting good practice. However, the sharing of knowledge and experience appeared to be perceived differently, which raises issues regarding the extent to which notions of 'communities of practice' and 'learning organisations' are extant and seen as being of value (Massaro, Dumay and Garlatti 2015; Senge 2014; Dochy, Gijbels, Raes and Kyndt 2014; Gillberg and Vo 2014; Deverell and Burnett 2012; Hatch 2012; Easterby-Smith and Lyles 2011), not just in terms of practice *per se*, but also in terms of the support given to the development of professional epistemologies, particular at the level of the professional community (Calvert-Minor 2011; Schatzki 1996).

We now move to a consideration of how a pragmatic epistemology might provide a meaningful and sustainable way forward in addressing many of the issues referred to above.

Chapter 7: Conclusions, Limitations, Innovations and Future Possibilities

7.0 A Different Approach

The issue of what constitutes knowledge, its status and the various manifestations it takes have long been the subject of discussion and debate, as discussed in chapter two. One the debates within epistemology that needs to concern us here is whether there is, or in fact whether there can or ought to be, any knowledge that is 'foundational' in the sense that it acts as a reference point or benchmark for everything else. This is an important feature of the wider debate regarding professional knowledge, and necessitates a considered view from an epistemological perspective. In essence, issues of *foundationalism* in epistemology refer themselves to the question as to whether or not what we know has a secure foundation, such that we are prepared to act upon it at the time, and whether our beliefs can therefore be justified (recall that one interpretation of knowledge was that it was a 'justified true belief' (Gettier 1963)), not that such underpinning structures are assured or certain in the absolute given Hume's recognition of the limits of induction.

In the absence of assured knowledge, we must therefore accept that our beliefs (the basis of knowledge and action) and our understanding of the nature of things, including professional practice of whatever sort, are *fallible* and therefore open to revision based on experience and/or additional knowledge from other sources. If we accept this, then we must also submit ourselves to and experience circular reasoning or *infinite regress* (Hume 1748) because of the limitations inherent within epistemology. From such a position, these represent, respectively, the claims of deductive versus inductive approaches to inference and reasoning (see chapter three), although they should not necessarily be assumed to be arguments from 'antiquity' as current debates in the field of quantum theory recognise similar tensions:

> *"If quantum theory encourages us to keep fluid our conception of what is reasonable, it also encourages us to recognise that there is no universal epistemology, no single sovereign way in which we may hope to gain all knowledge…There is a kind of epistemological circle: how we know an entity must conform to the nature of that entity; the nature of the entity is revealed through what we know about it. There can be no escape from this delicate circularity."* (Polkinghorne 2002: 87).

The search for foundationalism and ultimately, certainty, in the philosophy of science is in essence an attempt to resolve (or at least respond to) Hume's (famous) 'problem of induction', even though Aristotle and others had noted its presence much earlier. However, it was in *A Treatise of Human Nature* (Book 1, part iii, §6 – "Of the inference from the impression to the idea") and later in 1748 in *An Enquiry Concerning Human Understanding* (§iv – "Sceptical doubts concerning the operations of the understanding") that Hume first articulated his powerful and classic formulation that now has the status of a philosophical 'classic'. As a result, inductive reasoning remains *"…the glory of science*" and "…*the scandal of philosophy*" (Broad 1952: 143). The essence of the problem of induction is that our opinions regarding what we have *not observed* have *no justification at all* and never will have (on the 'strong' interpretation of Hume[9]). On this basis, Hume's assertion has the potential to deny epistemic credibility to every product of science and to every effort of common sense. Popular characterisations of the 'problem' refer to the white swan conundrum – "All swans are white" (Taleb 2007). However, this cannot be a substantive claim simply because we have never seen a black swan, and we cannot infer, logically, that we never will see a different coloured swan. Ergo, our claims lack *full* epistemic credibility.

In the context of this thesis, the issue is whether there is any *form* of knowledge in social work (or any other type of professional practice) that can lay claim to being *'foundational'* or *immune to revision*? The short and unequivocal answer is 'no',

[9] Schlagel (1984) however provides an interesting reply to Hume's overarching scepticism.

certainly from an epistemological perspective; and this applies to reasoning from deductive premises too as the deductive/inductive divide is illusory, as both refer to each other epistemologically and rely on each other for their progression towards closer and closer approximations of what is regarded as being accurate about the world. Therefore, absolute claims for knowledge cannot be justified (in the epistemological sense) and upheld, so social work's knowledge, at least epistemologically and, *ceteris paribus*, is as credible as that of any other profession, irrespective of the source of such knowledge. If we therefore accept the epistemological argument, then the issues focus on what constitutes *necessary* knowledge for the profession, rather than what ought to be its foundations. If we accept the legitimacy of the epistemological arguments, the question regarding knowledge of and for professional practice then becomes a different one – viz: how do we fully integrate and utilise *all forms of knowing* into a coherent epistemology for social work and (arguably) other forms of professional practice?

For professional practice, and in social work practice specifically, the issues are two-fold: firstly, the lack of epistemic credibility for all knowledge claims should be taken seriously and therefore requires that the profession and all its stakeholders recognise the consequences of this. These, simply, are that even with the best empirical, research-based evidence, doubts as to its efficacy and 'completeness' must remain. The recorded outcomes of any Random Controlled Trial (RCT), the 'gold standard' of research endeavour are, and can only be, provisional simply because they are, by reference to Hume's problem, fallible. As such, (and this is the second point), there can be *no foundational knowledge* in the epistemic sense for anything, even medicine and physics. Therefore, the results of our practice/actions can themselves only be provisional. Our actions may however work well and bring about success (however defined), but conversely, they may not succeed. Notwithstanding poor practice, these 'failures' in terms of professional actions may be as a result of many things, including the fact that our knowledge was incomplete, poorly aligned or not sufficiently relevant to a particular situation. *The perceived shortcomings may have as much to do with the quality of the knowledge and its sources as they do with the context and the skills of the practitioner.* To assume that 'scientific' knowledge is context independent is

dangerous. Thus, rather than referring to knowledge as *foundational* or underpinning, it should be regarded as being *relevant and necessary at that time and in that place*. Add to this the idea that all knowledge is provisional and fallible because of its epistemic status and that it *will* change over time, and we can then consider Stevenson's idea of putting knowledge into a 'frame' (of reference) rather than it being seen as a 'body of knowledge' (Stevenson 1971) which implies that it is in some senses, fixed. As Stevenson aptly notes, "*…to try and build a social work house on the shifting sands of social science theory is asking for trouble'.* (Ibid: 226).

One of the limitations of the debate within social work concerning its knowledge is the general lack of discussion and debate from a philosophical and epistemological perspective that takes account of the broader debates from within the philosophy of science, there being only a few exceptions to this general rule (Gredig and Sommerfeld 2008; Taylor and White 2001; White 1997; Sheppard 1995, 1998; Smith 1987; Philp 1979). Many assumptions appear to be inherent within the professional knowledge debate – mostly that the more 'scientific' we are in relation to our discoveries, then the more accurate and relevant the results are likely to be, a theme discussed in chapters two and three. One of the failings of the social work profession (and many others besides) is that it has generally not engaged with the epistemological and functional epistemic issues regarding knowledge, such that the EBP movement has been allowed to exert a disproportionate influence on the profession and its practices without any serious challenge on epistemic grounds being made or taken seriously. This is a significant issue, for if we accept the argument laid out above as valid (i.e. that epistemic fallibility is the norm for all forms of knowledge), then *all forms of knowledge have the potential to be as epistemically valid as all other forms;* ergo, personal, experiential (Kemmis 2005) and tacit knowledge can lay claim to the same epistemic status as research-based and other forms of technical knowledge and, *ceteris paribus*, accepted as valid for social work and other forms of professional activity and brought to bear on the profession and its stated tasks (IFSW 2014) providing that such claims are reasonable and lie within the parameters currently acceptable to the epistemic (professional) community.

In some respects, some of these arguments regarding types of knowledge are already extant and generally provide us with a ‘map’ of the terrain, but do not engage in any philosophical or epistemological discussions in order to argue the case from these perspectives. Often, there are implicit and somewhat general statements or exhortations to consider and use multiple forms of knowledge from a range of sources, but no coherent or cogent epistemic framework or any challenge to current perspectives is apparent. For example, Grey and Schubert (2013) state that “ [*knowledge-building processes*] *are shaped by broader professional debates on epistemology, methodology, theory and social relevance as well as political, sociocultural and economic trends, such as economic globalisation, advances in information and communication technologies and human rights discourses…*” (p341), but they do not refer to where such epistemological discussions are necessarily, and of necessity, taking place – nor, importantly does there appear to be a specific epistemological agenda for the professional knowledge debate to contribute to (Weinberg 2015; Göppner 2012; Calvert-Minor 2011).

There is much to be lauded regarding the value ascribed to more participatory forms of research and those that foreground the experiences of service users and their carers (Gant 2010). Not only do these approaches ascribe value to such experiential knowledge forms emanating from those involved, but they also point to a greater acceptance of the need for a plurality of forms of knowledge creation within research (Bradbury 2015; Lawson *et al* 2015; Aldridge 2014; Burke, Albert and Albert 2014; Groundwater-Smith, Dockett and Bottrell 2014; Harding and Norberg 2014). However, the debate continues as to the relative epistemic status to be accorded to these ‘other’ forms of knowledge and knowing that (generally) are not seen to reside within the positivist canon (Guo 2014; Brekke 2013, 2012; Guerrero 2013; Mullen, Bledsoe and Bellamy 2007). Thus, the epistemological case for the relevance and utility of a diverse range of knowledge forms in professional practice is lacking in spite of its centrality and, when these principles are articulated in a functional framework, they can provide the profession(s) and its agents with a working structure that can confidently facilitate the effective integration and use of

the fullest range of knowledge and ways of knowing and doing, acknowledging the value of all as contributions to our understanding of what it means to ‘do’ social work.

In order to illustrate the complexities of grappling with certain types and forms of knowledge from within a professional context, I shall consider the issue of making the claim that intuition (Cath 2012), feelings, tacit and experiential knowledge (Gau 2011; Iwai and Ishino 2009) have the same epistemic force and status as evidence as that produced via Random Controlled trials (RCTs), here set as the ‘gold standard’ for experimentalists.

Referring to the writings of F.H. Bradley (Ferreira 1999), we can orient ourselves towards the role and perceived relevance of *feelings* in relation to the act of making judgements; a judgement in this context referring to the degree of truth of something and the extent to which we place our faith in our understanding of the situation and act upon it. Bradley (1914) believes that feelings and ‘instinct’ (c/f: tacit knowledge) should be elevated and regarded as the sole criterion of philosophical truth. He argues that reasoning (via deduction/induction) is important but that *experiential* or *felt* knowledge is crucial as the final arbiter in the determination of the adequacy of any theory or judgement we make because it either ‘satisfies’ or it does not. Such satisfaction derives from our capacity to grasp the essence of a situation from broad perspective. It is at the level of feelings that, according to Bradley, we are most attuned to reality (Bradley 1914). Rational or relational thought is inherently limited, and so the full apprehension of a thing (an object, a situation, an experience) has to be embraced both sensuously and intellectually in order fully apprehend its meaning and come to a *degree* of understanding. The degree to which we can understand anything, the extent of its truth-value, is necessarily finite as earlier discussions (see especially chapter three) have highlighted, and it is in this particular regard that Bradley’s thoughts align themselves in interesting ways to the philosophical underpinnings of pragmatism, as well as affording us a means of considering the value of the intuitive focus in relation to knowledge creation and use.

As Bradley argues (Ibid: 253), (and Peirce, James and Dewey under the rubric of pragmatism), any Truth, in order to be Truth, must necessarily be universal, always, and at all times. As this is not possible because conditions external to our understanding are themselves unknown (at least in part), the truth is therefore contingent and contextual (to greater or lesser degrees) and never fully realised. However, this is not a sceptical position – rather, Bradley makes the (broadly pragmatist) point that we can, "*in a progressively increasing but never complete manner, include the conditions that had previously remained external to the judgement*" (Ferreira 1999: 5) and thereby decrease the extent to which our belief/judgement is false. Accordingly:

> *"Can the conditions of the judgement ever be made complete and compared within the judgement? In my opinion this is impossible. And hence with every truth there still remains some truth, however, in its opposite. In other words you can never pass wholly beyond degree."* (Bradley 1914: 253).

It is instructive here to consider what Bradley is suggesting – that all knowledge is inherently relative to the greater whole and that knowledge, will and feelings are interdependent, and we can therefore never have a complete understanding or knowledge of anything (Bradley 1883/1922). Thus, knowledge is incomplete, fallible and built from both reason and intuition. In relation to professional practice, the use of tacit/intuitive knowledge is often seen as being a somewhat risky platform upon which to build ones edifice of justifiable knowledge used to inform such practice, particularly in 'high-risk' areas like child care. Serious/Significant Case Reviews have, implicitly and/or explicitly, often condemned practitioners for operating on this basis, even where this is inferred by reference to the default position of being able to verify one's actions by reference to empirical evidence (Blom-Cooper 1985; Reder, Duncan and Gray 1993; Reder and Duncan 1999, 2004; O'Brien, Hammond 2001; Hammond and McKinnon 2003; Bradford Children Safeguarding Board 2013; Rochdale Borough Safeguarding Children Board 2013; Coventry Safeguarding Children Board 2013; Scottish Government 2012; Laming 2003, 2009) and that which has in some ways been 'verified' or 'legitimated' by reference to external 'expert' sources (the KSS statements from the Chief Social Workers being a case

in point perhaps). Operating solely on the basis of ‘gut feelings’ is not wise, but if we are to engage meaningfully, not only with people and their lived realities, but with the ‘whole’ situation, given that holism is something of a watchword in social work practice now, we have to accept the role feelings (Ruch 2012; Edwards 2011) and other attributes play in decision-making and judgements (Blom *et al* 2014; Hackett and Taylor 2014; Taylor 2013).

The proceduralisation of practice removes the centrality of feelings in helping to determine how to act, other than whether the procedure itself ‘feels’ right. F2 respondents in this study were clearly of the view that feelings generally played little or no part in their practice. As a result, proceduralised practices ignore the importance of the humanistic and philosophical dimensions of social work and other forms of professional activity and contradict one of the professions central tenets – seeing the whole person/situation (Bronfenbrenner 1979, 1986; Mullaly 2007; van Wormer 2007). This is not to suggest that humanistic or epistemological philosophising is necessarily the most direct, effective nor efficient way to advise, guide and assist people in distress, or support those who are struggling to make sense of their lives, but principles of moral philosophy underpin the profession’s value base and as epistemological principles underpin how we come to understand the world, why are these conspicuous by their absence in academic and other professional debates about knowledge of and for professional practice?

In terms of constructing knowledge, which is fundamentally important in allowing us to engage with the world and those others within it, including the people who receive social work services in this discussion whilst ignoring the basic principles of knowledge construction that posits the value of many different ways of knowing and doing is to condemn professional practice to a proceduralised and instrumentally focused strait-jacket. The focus of the purpose of our knowledge and how we know should be predicated upon the value of encouraging ‘human flourishing’, certainly in the context of social work and other human service professions. If Aristotle’s *eudemonia* is not the basis for social work, then the profession may have a bigger crisis to deal with than what type of knowledge is the ‘best’. What is ‘best’ is actually

a distortion of focus – what works to maximise eudemonia ought, *prima facia* and *a priori*, to be the focus of the profession, and not economics, political expediency or paradigmatic politics.

If we then accept the legitimacy of the philosophical argument for the need for an appropriate understanding of the structure of knowledge, and the epistemic arguments concerning its functions, issues regarding its source become subsumed under such a purview. In this way we are able to conceive of a more transparent and practically-oriented application of philosophical principles to generate and support the creation of a different, inclusive and practice/action orientated epistemology, one that recognises explicitly what Gredig and Sommerfeld (2008: 293) refer to as the 'hybrid nature' of practice-based knowledge. This reflects an underpinning principle of the pragmatist tradition: that *all* our knowledge, for social work and for life in general, ultimately derives from, and returns to, inform our experience(s) (practice).

7.1 A Pragmatic Epistemology for Professional Knowledge: Developing Situated Forms of Knowing and Doing

In responding to the findings of this study and attempting to make meaning from the responses of the participants in a plausible way, it has been necessary to make a number of inferences using elements of the process of abduction as a methodological strategy (Paavola 2004). In doing this, reference has been made to theoretical and other material and to ideas that have some level of explanatory traction in providing a reasoned and reasonable understanding for what was 'psychologically significant' in relation to professional knowledge for the respondents in the context of their felt experiences of day-to-day social work practice. The earlier chapters of this study have made reference to many of the philosophical, paradigmatic, methodological and professional discussions regarding knowledge in its various forms, manifestations and observed (and unobserved) uses. These provide the broad context for the rationale of the study and the justification for the choice of methodology and associated methods which of necessity are located within the pragmatic approach to the research endeavour,

all of which is designed to make some small contribution to the on-going discussions and debates regarding knowledge use in social work, conceptions of ontology and plausible structures for an epistemology and, by extension, these for other forms of cognate professional activity.

A corollary of this is that the study also makes a small contribution to those discussions around what may or may not constitute a ‘science of social work’ (Brekke 2012; Göppner 2012; Longhofer and Floersch 2012; Marsh 2012; Nurius and Kemp 2013; Anastas 2014; Shaw 2014; Sommerfeld 2014; Gehlert 2015) by reference to what a functional epistemology for this might look like, as it is generally agreed that there is currently no existing framework that covers all social care knowledge (Pawson *et al* 2003; Gray and Schubert 2013), and although pragmatism would not attempt to be so prescriptive, it does promote diversity and inclusivity predicated on the need for relevance and functionality of knowledge.

The details of what a ‘science of social work’ ought or might look like will continue to be discussed and debated and a form will no doubt ‘evolve’. However, what is required to inform and encourage this evolution is a coherent epistemological framework that privileges all forms of knowing on an equitable basis. This does not of course assume or presume that such a framework would be, could be or indeed ought to be the only one to be applied to issues appertaining to the definition, production, transfer, use, dissemination and development of social work knowledge: that would be too narrow and arrogant and would actually run counter to the whole ethos of pragmatism, with its rationale being centred on the development and growth of knowledge as a function of experience. Any framework (as a form of knowing – knowing how to organise and develop knowing) must of necessity evolve and not remain fixed. However, what the contribution of a pragmatic epistemology promises is a practically-oriented, iterative framework that recognises explicitly the reciprocal and symbiotic relationship that exists between knowing and doing - between theory and practice, and the importance of different forms of knowing and doing within this. If pragmatism privileges anything it is only that knowledge that best achieves its goals – the maximisation of success – of

homeostasis – of 'ends-in-view' (Dewey 1930 p223) and by extension, the enhancement of human flourishing or *eudemonia*. Such a framework not only has epistemological credibility (Jackson 2014; Levi 2012; Bernstein 2010; Biesta 2010; Goldenberg 2009; Hogan 2009; Koons 2009; Shook and Margolis 2009; Comesaña 2008; Lundestad 2008; Cooke 2006; Rescher 2001, 2008; Menand 2001; Bohmann 1999; Rorty 1982, 1999, Almeder 1986: 2007; Thayer 1980; Dewey 1929, 1929a, 1933/2013, 1938; Murray 1912; James 1907; Peirce 1903, 1905) but accords well with social work's axiology (Bader 2015; Borden 2013; Biesta 2010; Beatty, Dean and Leigh 2009; Minteer 2001; Bayles 1967) and sits comfortably as a guiding paradigm for research activity (Biddle and Schafft 2014; Morgan 2014b; Hall 2013) which aims to foreground the importance of the personally-relative nature of social life.

Pragmatism speaks to the need to recognise that all beliefs (whether they function accurately as knowledge or not) have the right to enter into public (or private) discourse, but in order to gain and ultimately maintain (renegotiable) validity, they must evidence a recognisable degree of functionality. If the belief has no basis in relation to action and experience, its status is negligible. However, that is not the same as saying that a previously unsustainable belief cannot (nor should not) be reconsidered in the future. Fallibility is not simply a product of the thing itself, but is also a *process*. All beliefs (and therefore, 'truths') are revisable in light of experience and new forms of evidence, so whilst absolute relativism is not sustainable, all future beliefs, supported or not at the time, are subject to the effects of both fallibilism and the process(es) of revisability. Pragmatism, as a pluralistic approach, would contend that there are no rational grounds for discrediting any form of discourse – there is a place for all entries into intelligibility, even those that would stand against it, providing these are in fact *intelligible*.

In developing and articulating a pragmatic epistemology for social work, I will make reference to themes and issues in the literature regarding social work and professional knowledge more generally in order to contextualise pragmatism and its core principles. In doing this, it will highlight the contribution that an appreciation

of the importance of the principles of epistemology *per se* can make to the knowledge debate generally (Gringeri, Barusch and Cambron 2013) as well as the contribution to the research process in social work and cognate disciplines of a distinctively *pragmatic* epistemology, with the aims of clarifying what ought to be the focus of future discussion and action, in an attempt to move the debate forward in a meaningful way.

7.2 Models and Muddles regarding Social Work and Knowledge

The findings from this study highlighted a number of key themes and issues relating to knowledge of and for social work and for professional knowledge more generally. It suggests a profession still confused about what it ought to know, how it ought to come know these things, how it ought to use what it thinks it knows and how it ought to make what it knows useful in the best possible way.

The literature relating to social work knowledge has a lengthy and voluminous history, and yet confusion still remains. In most discussions and reviews of this broad topic, the focus still tends to lean towards *evidence-based* or *research-based knowledge* (EBP) and how this is and ought to be implemented and utilised. In reality however, this paints an unrepresentative picture of the issues, and I refer back to chapter two where a detailed discussion of the extant literature on the topic was presented. That discussion highlighted many of the tensions evident regarding the issue of knowledge of and for social work, but importantly located and considered these in a much broader philosophical context recognising the importance of thinking about epistemology and the contributions this field of study has to offer to the social work knowledge debate. In approaching the terrain in this way, important insights and observations have been gleaned from the philosophy of science and that of logic and epistemology. This is a different approach to that which has generally gone before, which tends only to provide us with postulated models of how knowledge ought to be generated and used, but it has been one that has seen research-based knowledge having a privileged status, particularly that with more ‘positivistic’ tendencies. The issue here is not that such knowledge is of no value: on the contrary, scientific knowledge has proven its value beyond

measure, but in the context of the human services, focusing overly much on these particular modes of production/creation, we have side-lined and minimised the potentials of other forms of knowing.

As a result, the profession(s) continues to try and make some square pegs fit into some round holes, and rather than thinking what other ways might help address the issues at hand, it continues to seek *certainty* from its efforts by reference to what are perceived as more accurate and assured interpretations of the world and its problems. We could spend an eternity considering what A said about the best way to deal with X or Y, and what B then said in response, and how C thought they were both wrong. This achieves little in terms of the meta-task - the need to harness the best we know to enhance our capacity to deliver the best we can. Thyer and Myers (2011) make a very valid observation that encapsulates not only the essence of the problem we seem to have developed for ourselves, but also provide some semblance of a route to a solution to these circular and regressive arguments when they say that:

> "*EBP is correctly seen as a process of inquiry intended to help practitioners and their clients make important decisions about the services the clients receive. EBP is a process: a verb, not a noun. There is no such thing as evidence-based practices, since in EBP one decides what services to provide by taking into account not only research evidence but also client preferences and values, situational circumstances, professional ethics, the practitioner's existing skills, and available resources."* (p 8).

These comments are important in several ways. Firstly, they refer to EBP as 'a process of inquiry'. In this, the claim is that it is but one of a variety of processes rather than the process. Secondly, they refer to a 'process of inquiry', not experimentation or observation or discussion or theorisation. Inquiry is therefore here taken to mean that it is and ought to be inclusive and all embracing – of any or all of these ways. Thirdly, they reacquaint us with the function of grammatical forms – the process of inquiry is active, not passive – it is therefore iterative. Applying pre-determined, decontextualised findings from research *or any other form*

of inquiry is passive. I would argue that safeguarding should be conceived of in the same way – both are active, not passive and as such demand, even at a basic level, reflection (Schön 1983) and iteration, core components of a pragmatically-oriented abductive approach, realising too the possibilities inherent within a phronetic approach to inquiry in the social and other sciences (Raz 1978; Flyvjeberg 2001; Kinsella and Pitman 2012; Shotter and Tsoukas 2015).

To provide some illustration to support the rationale for a 'new' pragmatic epistemology for the profession, we need only look at the current terrain within which discussion, research and analysis of social work knowledge is taking place. For example, Gray, Joy, Plath and Webb (2012) identified eleven studies from the literature published between 2000 and 2010 that considered what barriers and facilitators to *implementation* of research-based knowledge (EBP) existed. They identified a range of barriers that included inadequate agency resources dedicated to EBP, poor skills and knowledge of practitioners in terms of understanding what EBP was or how to use it, agency cultures that did not promote the use of EBP, a poor degree of fit between the products of research and the requirements of those likely to want to/need to use it, the attitudes of practitioners towards EBP – that they did not trust it, nor did they feel it was applicable, and a lack of opportunity to discuss the relevance of EBP findings, thus militating against effective implementation. In terms of facilitators, these were much less clear, but did refer generally to situations where a strategic approach to EBP/research use was taken, particularly at the organisational level where use was then much greater and more appreciated (pp160-164). Similar findings are echoed within each of the factors within this study. Thus, the issue of using what for many is seen as, or assumed to be, essential and core to contemporary practice is not only confused, but it is articulated in such a way that it is difficult for people to even understand what it is they are supposed to be using or doing. The authors note that "*EBP is not clearly or consistently defined in the human services and much ambiguity prevails."* (p158).

Gray and Schubert (2013) in their review identified ten different models of social work knowledge *production* from within the literature (Rothman and Thomas 1994;

Humphreys et al 2003; Karvinen-Niinikoski 2005; Gould 2006; Flaskas 2007; Gredig and Sommerfeld 2008; Robinson et al. 2008; Payne and Aga-Askeland 2008; Trevithick 2008; Alexanderson et al. 2009) and noted the main features, which included taking account of: the research context, the production process for knowledge, the use of evidence-based practice, reference to Mode 1 and/or Mode 2 knowledge, knowledge translation issues, the organisational context, organisational change and how knowledge is utilised. They note however that, *"…none of the identified models provides a comprehensive holistic approach incorporating all aspects of the research process..*." (Ibid p342). They also note that:

> "*For such models to encapsulate the process of producing knowledge within social work, as many key elements as possible consistent with wider multidisciplinary understandings of knowledge production must be incorporated. In our view, linear models, which are dominant in the social work literature, are highly simplified and need to be extended, at a minimum, to incorporate the factors affecting the context in which knowledge is produced and used (Gray and Schubert 2012)."* (Ibid p344).

They essentially *reiterate* earlier exhortations from within and across the literature that a model of some sort is required, but offer no substantive way forward in relation to what such a model might look like, nor how it might *function*. However, their reference to their earlier work is to their own attempt at constructing just such a model of knowledge production and transfer and one "*…that was developed out of perceived synergies between the new theory of knowledge production and the growing body of literature on evidence-based social work."* (Gray and Schubert 2012 p 204). Unfortunately, they then make it clear that their model is limited in that *"…it does not represent the full gamut of forms of accepted knowledge in social work, such as tacit, theoretical and conceptual knowledge*", although they concede that "[knowledge-building processes] *are shaped by broader professional debates on epistemology, methodology, theory and social relevance as well as political, sociocultural and economic trends, such as economic globalisation, advances in information and communication technologies and human rights discourses…*" (Ibid p341. This however appears to make the assumption that these other (somewhat

confusingly labelled) forms of knowledge and these debates are in fact 'accepted'. The acceptance, and ergo the agreement of and for such a plurality of forms and types of knowledge and the breadth of the debates within and across the professional social work community are by no means apparent, as the discussion within this thesis makes clear. If there is any agreement at all, then it is that there is in fact no agreement. The debate rages on. However, their 'evidence-based knowledge production model' (Ibid p206) is of interest and usefully refers to the utility of 'Mode 2' knowledge production (Gibbons *et al* 1994), even though this mode still privileges a research-based approach that aims to generate "*…socially accountable, usable knowledge that directly addresses social problems…"* (Gray and Schubert 2012 p207).

Marsh and Fisher (2008) claim that *"…social work generally does not have enough people engaged in knowledge production, and even among the mainly academic researchers thus engaged, there are few large-scale social work studies generating evidence for practice."* (p207). It is interesting to note here that the authors make reference to "large-scale studies" as if these are the only sorts of studies that are worthy of paying attention to or engaging with. This sort of comment serves only to perpetuate the 'myth' of the centrality of research-oriented knowledge based upon positivistic models.

The transfer of research-based knowledge to practice continues to be a source of concern (Alley, Jackson and Shakya 2015; Gray, Sharland, Heinsch and Schubert 2014; Plath 2014; Armstrong *et al* 2013; Gray, Joy, Plath and Webb 2013), as does how it is then used (van de Luitgarden 2009) and understood (Avby, Nilsen and Dahlgren 2014; Nevo and Slonim-Nevo 2011). Here again though it can be seen that the primary focus is still on research-based knowledge, largely to the exclusion of a consideration of those production and transfer issues relating to other types of knowledge emanating from other sources or representing other types of knowledge (experiential, tacit, common-sense) (Edwards and Daniels 2012; Kothari *et* al 2012; Orlikowski 2002, 2006), and knowing (Brier 2000) and the role of context (Healy 2014; Meijers *et al* 2006; Gibbons 2000). Rutter and Fischer (2013) make the point

that *"The application of knowledge is therefore highly contingent on context: and research knowledge competes with other, including powerful experiential, knowledge, as well as values, in guiding social care practice*." (pp6-7) and they go on to say that *"…methodological quality cannot be the arbiter of what is evidence. The authority of research evidence over practitioner experience is also doubtful, yet there is relatively little discussion in the literature about power, authority and relevance to context."* (Ibid p9). Thus, the literature is replete with the recognition that many elements of the current 'knowledge landscape' of social work are problematic, and yet these have remained such for a long time.

As a result, these discussions provide suggestions that are only *partially* relevant to the wider debate not simply because they are focused on a particular type of knowledge, but also because they do not engage in any consideration of how other modes of knowledge production might usefully be transferred. However, Nutley *et al* (2011) offers a six-fold map of the 'key features' of the 'knowledge terrain', identifying concerns as being located relevant to: (i) the types of knowledge relevant to the effective implementation of EBP; (ii) the ways in which research knowledge is utilised; (iii) models of the processes of implementation; (iv) the conceptual frameworks that enable understanding of EBP implementation; (v) the main ways to intervene to increase the uptake of EBP and (vi) different ways of conceptualising what EBP means in practice. They advocates for a whole-system change regarding the way knowledge models are conceptualised and provide a useful typology of the relationship between (for example) explicit and tacit knowledge, drawing on the psychological literature regarding different types of memory (p129).

All of these studies, and many others besides, illustrate beyond doubt that the social work knowledge debate is complex, confused and confusing, with powerful views and agendas leaving their mark. It would not be inconceivable to draw upon many hundreds of similar studies to illustrate and 'evidence' what is already apparent – that the social work knowledge debate is recursive in its attempts to clarify what should reasonably lay claim to be treated as relevant and reliable knowledge of and for the profession and what are the best ways to obtain it and use it. In this broad

summation of the issue, there is also an implicit recognition of the nature and relevance of underpinning paradigms, methodological approaches, methods, ethics, evaluation strategies, organisational cultures, context and values amongst other competing themes. To try and deal with each of these issues separately is not only to set oneself an all-but-impossible task, but is also to risk leaving out some issue or other which someone somewhere would deem to be central to the fullest possible understanding of the myriad issues involved.

The task now is to articulate, contextualise and justify the introduction and use of a pragmatic epistemology for social work (and related professions) that is able to provide a critical framework within which issues of knowledge *definition, production*, *transfer, utilisation, dissemination and development* can be located. In order to see that such a 'pragmatic project' is not only desirable but, I would argue, necessary, we can still discern from within the literature *recurrent* and *repetitive* themes regarding social work and knowledge that suggest the issues are still as pronounced and uncertain as they ever have been (see for example, Schön 2001). The primary concern here has to be how to effectively include all relevant forms of knowledge and ways of knowing into the professional canon. The 'models' and approaches that are extant still appear to be confused and confusing, and none of them articulate a coherent and plausible way forward to legitimise all forms of knowing in the search for 'what (really) works (most of the time)', and it is this that represents one of the the main barriers to effective knowledge production and use in professional practice. The more that the profession dissects, discusses and debates the various elements of the topic, the more confusing things will continue to be. But by adopting a clear, coherent, systematic and experience-based approach to inquiry, much could be gained by the profession(s) both in terms of practical knowledge and, significantly, clarity of vision. In this, pragmatism can be conceived as a 'healing philosophy' (Lewis 2007).

7.3 A Pragmatic Epistemology

> *'Any problem of scientific inquiry that does not grow out of actual (or "practical") social conditions is factitious; it is arbitrarily set by the inquirer'* (Dewey 1938: p499).

The essence of a pragmatic epistemology rests on a number of key features that provide both focus and a critical perspective. These include: its rejection of the ontological assumption that there is only one objective reality; its view as to what it sees as functioning as 'knowledge'; its alignment to instrumentalism; its relationship to experience; how it conceives of inquiry and how it sees this proceeding, and its commitment to fallibilism (Martela 2015; Bernstein 2010; Fantl and McGrath 2009; Koons 2009; Shook and Margolis 2009; Cooke 2006). It therefore offers a distinctive view regarding the nature of ontology, the structure and role of epistemology and the nature of scientific inquiry (see chapter two). It provides a framework whereby the purposes of inquiry and of knowledge are simply (but not simplistically) seen as being ways of helping us to address the issues of dealing with how we experience and come to understand the world in a *practical* sense. Practical here though does not just mean how we might undertake practical things – it is also practical for me to *understand* something *conceptually* if it subsequently allows me to engage with the world on a more functional basis. All ontological and epistemological matters are intricately connected to *experience*, particularly in the form of pragmatism articulated by Dewey in *Logic: The Theory of Inquiry* (1938), although the framework here also draws on the thinking and writings of Charles Sanders Peirce 1877, 1903, 1905) and William James (1904, 1907, 1912, 1968), D. L Murray (1912), G.H Mead (1967) and C.H Cooley (1902, 1956).

These elements are also central to the critical stance afforded by pragmatism. Its rejection of certain ontological assumptions, its conception of what counts as knowledge, its instrumentalism and focus on experience as the basis for inquiry all provide a framework for a discursive critique with the 'end-in-view' providing a functional and visible benchmark for its efficacy as a framework by asking whether what what was done, worked? Pragmatism provides the means by which everyone can critically approach not only their practice based on this benchmark, but they

can also use it as a critical basis to evaluate their knowledge-defining, knowledge-producing, knowledge-transferring, knowledge-using, knowledge-developing and knowledge-sharing strategies. The outcome-focus of pragmatism is ideally suited to this.

The framework discussed here is a framework for 'scientific' inquiry – a pragmatic theory of 'scientific' inquiry. The use of inverted commas is simply to re-emphasise that the nature of 'scientific' is a contested notion as discussed in chapter three, and that the pragmatic emphasis is more on the word *inquiry*. Dewey himself was clear on this point: *"Sciences themselves are outgrowths of some phase of social culture, from which they derive their instruments, physical and intellectual, and by which their problems and aims are set."* (Dewey 1928 p311).

The framework is built upon and around the pragmatic principle, as mentioned in chapter three, the basis of which is:

> *Pragmatic Principle* > A Person will be rationally justified in accepting a proposed proposition [*P*] as true if:
>
> > *i):* there is at that time no currently available conscious inference, inductive or deductive, from any other previously known or justified beliefs that would either confirm or disconfirm *P;* and:
> >
> > *ii):* there is a distinct possibility that by accepting *P* as being true or likely to be so, it will produce consequences more likely to contribute to the enhancement of cognitive and/or moral utility than would be the case if we did *not* accept *P* as being true, or likely to be so.

At the most basic level, as human beings we need to act in relation to the world. Merely observing the world is not sufficient; we engage in and with the world and as such, all the beliefs (knowledge) we have are essentially (revisable) guides to future action (James 1907 p23) and are based on the outcomes of these experiences. In this way, pragmatism locates the value of knowledge (beliefs) in the nature of our practical existence and experience. The aim of pragmatism and its

approach is to utilise our experience as a means by which we build knowledge of the world in the shape of 'warranted assertions' (Dewey 1938 p7), rather than absolute knowledge or belief, based on the appreciation that we can never have a complete understanding of anything (c/f Hume 1748/2008; Howson 2000; Lange 2008; Wiley 2012).

Any 'warranted assertion' is judged in terms of its capacity to enhance the achievement of our goals, whatever they might be: conceptual understanding, improved practical action or being able just to 'do' (social) life a little better than before. This approach provides each of us with the opportunity to generate our own forms of 'knowing' and 'doing' grounded in our own reality and that help us to make sense of the world. As each of us will have our own preferences regarding the 'warranted assertions' or beliefs about the world that work best for us, we can avoid the descent into absolute relativism and scepticism (Grayling 2009) as our nature is such as to lead us to prefer and to repeat those actions (underpinned by our beliefs) that are more likely to lead to the achievement of our goals, at whatever level these may be at, including those assertions that act at the collective level. As Hogan (2009) notes, *"…our rules of method and our ontology emerge out of our struggle to adjust to the problems of living."* (p386). This is of course should not be taken to imply that we can believe anything we want to: this would run counter to the pragmatic maxim as well as what to Wittgenstein referred to as 'background beliefs' (Wittgenstein 1969: para 162). We all rely upon certain standards regarding what is plausible in terms of what to believe and this therefore minimises (though does not eradicate absolutely) the possibility of such anarchic relativism.

Taking the above into consideration, we can now consider what a pragmatic framework might look like. In essence, there are three elements to consider in relation to the process of inquiry. Firstly, when we experience a situation we are unfamiliar with, or one in which we experience some form of level of doubt, we recognise the need to respond to this by adjusting our behaviour and responses in some way. At a basic level, this may involve pure reflexes - a biological and pre-cognitive response, or it may involve intuition or the utilisation of past experiences

in the form of habits. Such a response may be appropriate because it is successful and therefore functional – it fulfils the second element of the pragmatic principle. However, if the response requires a more cognitive and reflective approach, we then engage in a different form of inquiry, that which "*…is the controlled or directed transformation of an indeterminate situation into one that is so determinate in its constituent distinctions and relations as to convert the elements of the original situation into a unified whole."* (Dewey 1938 pp104-105). This type of approach is not just relevant to what we might refer to as 'scientific' inquiry. Note that Dewey's rendition of an inquiry does not tie itself down to any particular approach or method. The purpose of inquiry is to resolve or alter the situation: the means by which this takes place are to be determined by reference to the nature of the situation, the context and the means available to the individual, the most basic of which is the capacity to *reflect* on the situation, such that one becomes aware of the need to act (Dewey 1929a).

Thus, inquiry using 'scientific' methods or 'common-sense' (with its parallels to pragmatism – see Jackson 2014; Lundestad 2008; Fieser 2000) instigates a process of reflection, exploration and iteration – abduction (Shank 1998; Haig 2005, 2008, 2012; Tavory and Timmermans 2014), a 'scientific attitude'. *"The scientific attitude may also be defined as that which is capable of enjoying the doubtful; scientific method is, in one aspect, a technique for making use of doubt by converting it into operations of infinite inquiry."* (Dewey 1929 p228). The inquiry thus engages principles of reflection and systematic iteration, moving between our current situation and how we understand it, our past experiences that may have some similarities to our current one and all the 'data' we have in front of us. This does not mean that we have to adopt formal, scientific procedures. Dewey (1938) reminds us: *"Scientific subject-matter and procedures grow out of the direct problems and methods of common sense, of practical uses and enjoyments."* (p66). The aim of inquiry, simply, is to unify all that we have before us into a coherent whole such that we reach a 'warranted assertion' – an understanding or solution that works – then – and which can then form the basis of future actions. The warranted assertion is a hypothesis regarding whether or not we have achieved our aim – the resolution of indeterminacy. If we feel we have, then the particular inquiry

ceases; if we feel we have not resolved matters satisfactorily by reference to our existential and experiential situation, we continue to inquire until we do reach some form of conclusion, one though that is, of necessity, provisional, as all conclusions are (Toulmin 1958).

In relation to the more collective aspects of inquiry, and that which relates to the sorts of inquiry undertaken in the context of social work practice and research (and other professions), we should note that the main difference (and the only one from a pragmatist perspective) is that we have to demonstrate an adherence to the generally accepted standards of the field or profession – of the 'community of inquiry (Calvert-Minor 2011; Schatzki 1996). This is an important point because it addresses the assumption that there is a legitimate hierarchy of inquiry, classically represented by the view that a Random Controlled Trial is a 'better' type of inquiry than interviews or observations for example. This assumption has simply taken the criteria of the (positivist) scientific community in relation to its standards and applied them across the board – problematising, arguing and, significantly, *convincing* others of the veracity of their claims, as if they ought to apply to everyone. In pragmatism, and in social life generally, the final arbiter of the effectiveness of any inquiry is whether it achieves its purposes. Powell (2001) articulates this well, asserting that: *"To a pragmatist, the mandate of science is not to find truth or reality, the existence of which is perpetually in dispute, but to facilitate human problem-solving'* (p884). This however does not necessarily equate with the ends justifying the means, as the discussion referred to in chapter three regarding Asch (1956), Milgram (1963, 1974) and Haney, Banks and Zimbardo (1973) and their studies on obedience and conformity clearly shows, although the findings from these studies have (ironically perhaps) proven themselves. However, the value-base of social work, professional and research standards and ethics all provide a backstop to maintain the integrity of all processes of inquiry.

By adopting a 'preferred mode' of knowledge production and use, social work (and other professions) arbitrarily limits itself to a narrow perspective on and of the world. There is an inconsistency in the way social work currently organises its knowledge when set against the way practitioners would suggest it should in fact be organised:

to use Dewey's phraseology, there is a 'felt difficulty'. The current model(s) for social work and professional knowledge do not appear to be working as well as they could and we may be in danger of going down the route some feel medicine has traversed: as Miles (2013) notes:

> *'[M]odern medicine places great emphasis on the study of organ systems and the use in practice of objectively measurable biological indices of dysfunction and disease. While no one lucid would argue against the fundamental importance of such an approach, a point can be reached where such an emphasis becomes disproportionate in the sense that this so-called objectification of the somatic ignores (or rejects) the human dimension of illness and risks reaching a point where the patient is seen as part of the disease, rather than the disease being seen as part of the patient. Western medicine has ventured dangerously close to precisely such a point.'* (p 329).

This does not mean that we should enter into a Cartesian doubting of all our beliefs about what works in social work (or in medicine or anything else), but as Peirce (1868) makes clear: *'A person may, it is true, in the course of his studies, find reason to doubt what he began by believing; but in that case he doubts because he has a positive reason for it, and not on account of the Cartesian maxim. Let us not pretend to doubt in philosophy what we do not doubt in our hearts*.' (p 141). The introduction of a pragmatic model for social work and professional knowledge is based upon the empirical findings of 'doubt' in the hearts of practitioners and, on the basis of the literature, large elements of the profession. It is with these thoughts in mind that a pragmatic epistemology of and for social work is presented as a real alternative to the current 'model muddle' extant within and across the profession(s).

Any theoretical model, like the one proposed here, is for the pragmatist nothing more than an organising framework through which problems are perceived and subsequently organised. In order to understand the role such a model has, we can refer to Dewey's notion of a general 'theory of inquiry' (Dewey 1938), most clearly articulated in *How We Think* (1910/2007). Here, he outlines a 5-stage process:

> i): a felt difficulty;
>
> ii): its location and definition [problem identification];
>
> iii): suggestion of possible solutions [theory application];
>
> iv): development by reasoning of the bearings of the suggestion [inquiry];
>
> v): further observation and experiment leading to its acceptance or rejection, that is, the conclusion of belief or disbelief [reflection; phronesis; philosophising] (p 72).

Any theoretical model must be consciously explicated and subjected to continued evaluation and re-evaluation. A model is but a tool – much like the complex statistical processes of Q-factor analysis – as complex as they are, they are a means to an end, as is Dewey's (or anyone else's) model. However, of significance here is Dewey's insistence on a *general theory of inquiry* rather than a theory (or model) of *scientific* inquiry. The focus is on the *inquiry*; and a pragmatic model permits common-sense inquiry as well as scientific inquiry. In this way, pragmatism offers us all a way out of 'idealised' notions of science. The issue is not methodological but one of process and progress towards one's goals which, under the pragmatic maxim, are (simply) to maximise functioning and stability within the context of everyday human life. Rorty (1991) is a staunch critic of the scientific method – for him, there is no method or approach *per se* that can reliably give the truth. Instead, different truth propositions have either better or worse pragmatic consequences. In this, Rorty not only eschews the 'tyranny of method' (Bernstein 1983), but also avoids the 'trap' of relativism because he holds on to the analysis of consequences and sees these as the arbiter of the effectiveness of the pragmatic approach to inquiry. One of the critical aspects of the pragmatic model is its emphasis on critiquing all outcomes to see if they can be improved upon. With its acceptance of fallibilism as a core construct of its epistemology, pragmatism permits of new possibilities at any and every stage. It therefore provides an inherently critical perspective on knowledge – in terms of its production, use, translation, development and dissemination, and therefore represents a 'healing philosophy' – an integrative approach for (emergent) post-positivist thinking and

methodologies. Pragmatism thus offers us a way out of ‘idealised’ notions of science and instead provides a platform upon which *inquiry,* in all its manifestations, can rest easily simply because they (different approaches) all have equal validity depending on the purpose of said inquiry. It negates Bernstein’s nemesis.

The justification for the pragmatic model is that it provides for the possibility of better consequences for social work and other professions simply because it enables a plurality of views (methods) to be a part of its overall schema. Pragmatism also offers us a view of nature (the world) that is essentially systemic and thus has great coherence with the underpinning, holistic ethos of professional social work and other human service professions. Pragmatic metaphysics are important in terms of how its overall orientation enables us to locate the individual within context. Pragmatism takes account of all levels of existence – physicochemical (the physical world), psychophysical (biological) and that of ‘mind’ (psychological) (Dewey 1929a) in much the same way as contemporary ecological models do (Bronfenbrenner 1979: 1986; Mullaly 2007; van Wormer 2007; Jack 2012; Gitterman and Germain 2013; Manfredo *et al* 2014; Payne 2014; Magasi *et al* 2015; Ruth *et al* 2015; Simplican *et al* 2015) even though the levels may have different labels. Nonetheless, these help emphasise the intermingling of psychological and, importantly, cultural beliefs and perceptions, all of which inform knowledge production and use.

In addition, this broad metaphysics underscores the need for a broad scholarship so that as professionals we might come somewhat closer to understanding what it is we, and those we work with, wish and need to achieve. In this, pragmatism promises a place for interdisciplinarity such that we might understand the individual from as many perspectives as possible. As a corollary of this, such a broad metaphysics demands that we also draw from the interdisciplinarity inherent within differing sources of knowledge and of knowing. Such interdisciplinarity opens the way for the adoption of a range of critical perspectives to inform the process of inquiry: all manner of social and behavioural sciences, feminist studies, literary studies, religious studies and others. In allowing such a broad perspective, and

admitting of these possibilities, pragmatism's conception of mind is able to accommodate well to the 'social' and to foreground the centrality of people's needs as a legitimate topic for pragmatic inquiry.

Neo-pragmatists like Fraser (1989) would contend that the 'social' must include the welfare systems that exist and to which many involved with social work have or need access to (Rescher 1972). West (1993) makes an interesting connection to the theme of 'human flowering' (flourishing) as being a core political pragmatic ideal, echoing Aristotle's *eudemonia.* These writers have as their focus the issue of *social justice* as a core pragmatic agenda item – as does social work. West's political pragmatism *'calls for the reinvigoration of a sane, sober, and sophisticated intellectual life in [America] and for regeneration of social forces empowering the disadvantaged, degraded, and dejected. It rejects the faddish cynicism and fashionable conservatism rampant in the intelligentsia and general populace'* (West 1989: 239 in Lewis 2007: 308). Such a pragmatic political philosophy would offer professionals a range of tools for cultural criticism that would aim for *'a more egalitarian redistribution of wealth and power that includes the elimination of poverty, a head-on assault against white supremacists ideas and practices…a monumental pushing back of patriarchal and homophobic structures and a cultural renaissance that gives moral meaning and social hope for citizens in a more free, just—and ecologically sound—future.'* (West 1993: ix). Thus, the problems faced by social work (and other professions) is not the lack of ambition, but, as Lewis (2007) claims *'The problem is a lack of adequate theoretical and philosophic underpinning that support that role and a sufficient constituency within [the professions] to put that theoretical underpinning to work'* (p 308).

The structure of pragmatism and its approach to inquiry thus provides us with the essential ingredients for a functional approach to inquiry and problem resolution and, ergo, research. It also provides an approach to reasoning that is located within the realms of 'everyday' experience (abduction) and that is therefore available to everyone – professionals and service users alike, that resonates with common human experience – itself the basis of all knowledge, belief and action (Prus and

Puddephatt 2009). Its underpinning principles have epistemic credibility by virtue of the commitment to fallibilism and the recognition that all solutions and outcomes are, by reference to this, only ever provisional. It also provides us with a solid basis for accepting that the ultimate value of inquiry lies in its capacity to enhance human well-being or eudemonia or, in keeping with the pragmatic principle, the restoration and maintenance of homeostasis. Finally, such an approach sits comfortably with social work's overall purposes and its stated aims – its commitment to social justice (broadly defined) is well served by reference and adherence to pragmatism.

7.4 Modelling a Pragmatic Epistemology

Figure 7a below represents a schematic of a pragmatic epistemology of and for social work practice. In its purview it refers itself to the main themes and domains of interest within and across the social work knowledge debate, all of which were evident in the findings of this study – knowledge definition, production, transfer, use, development and dissemination.

During the course of this study and in reviewing the literature it has become apparent that the whole social work knowledge terrain is confused by the myriad terms and meanings applied to the issues being considered. There is a plethora of models and multiple terminologies. The model for a pragmatic epistemology aims to simplify this by utilising precise terminology that itself has within it multiple interpretations. This is not oxymoronic – the term 'inquiry' for example is relatively straightforward to understand, but as a notion it has multiple meanings, in much the same way that pragmatism would actually see the process itself – as being constituted of various ways and means of undertaking an inquiry, *none of which should necessarily be uniquely privileged*. The definitions for each of the phases and domains within this epistemology are set out and discussed below.

Figure 7a. A Schematic of a Pragmatic Epistemology[10]

1. KNOWLEDGE: DEFINITION

1.1. WARRANTED ASSERTIONS

2. KNOWLEDGE: PRODUCTION

2.1. EXPERIENCE – FACTS - INTUITION

2.2. DOUBT

2.3. METHODS

2.4. CONTEXT

2.5. INQUIRY – INFERENCES

2.6. RESEARCH - PHRONESIS

3. KNOWLEDGE: TRANSFER

3.1. SITUATIONAL - CONTEXTUALISED

3.2. GENERAL – DECONTEXTUALISED

3.3. CONSULTATION

4. KNOWLEDGE: USE

4.1. PRAGMATIC MAXIM

4.2. CONTEXT

4.3. TYPES/FORMS

4.4. PERSONAL

4.5. ORGANISATIONAL

4.6. COMMUNITY OF PRACTICE

4.7. COMMUNAL/PUBLIC

5. KNOWLEDGE: DEVELOPMENT AND DISSEMINATION

5.1. INDIVIDUAL

5.2. COMMUNITY OF PRACTICE

5.3. ORGANISATION

5.4. COMMUNAL/PUBLIC

5.5. PHRONESIS – RESEARCH

5.6. KNOWLEDGE BROKERING

[10] This schematic is presented in linear fashion. However, as with the process of inquiry itself, the model is iterative and each 'section' may be aligned to or juxtaposed with any other section at any given time, depending on the situation and the complexity of the processes and issues involved.

7.5 Definitional Terms within a Pragmatic Epistemology

7.5.1 Knowledge: Definition

Knowledge is here defined as being a ‘warranted assertion’. This is a belief that is strong enough to prompt action. It can be made up of any kind of knowledge, and be drawn from any source: experience (of life, from practice – hence experiential knowledge), common-sense understandings (common-sense knowledge), intuition (intuitive knowledge), know-how-to knowledge (tacit knowledge), and propositional knowledge (knowledge of facts – ‘knowing that’, as well as derivatives thereof: empirical knowledge, procedural knowledge, theoretical knowledge, process knowledge, practical knowledge. The issue here is that when we are in a position to act on the basis of what we think we know, and are confident that our belief (our knowledge) is plausible enough for us to act on the basis of it, where that knowledge comes from is irrelevant. The current view is to use only that knowledge derived from what are perceived and argued to be legitimate sources, but as the discussion above has illustrated, these are assertions based on assumptions of the pre-eminence of the prevailing standards of the community which are, in large measure, a distortion of the real meaning of inquiry. The justification for this definition of knowledge, and the implications for action that arise therefrom are mitigated by reference to the ‘plausibility’ caveat i.e. that what we believe has to be plausible by reference to our standard belief systems.

7.5.2 Knowledge: Production

Knowledge production is defined here as arising by reference to our experience, by reference to facts about the world and our place in it – these facts may have been drawn from codified sources, experience or via any one of the sources referred to under ‘knowledge definition’ above, and by reference to intuition – that which we know but of which we cannot say how we know it, or necessarily why we know it (2.1). The catalyst for the production of knowledge (or the restoration of the previous state or its betterment) is the presence of some manifestation of doubt. This might be referred to as disequilibrium, anxiety, confusion or any other synonym or applicable term (2.2). When we experience doubt, we are prompted to act in some way or other – we must act in response to the doubt – this action will manifest

as a way of acting in response to the doubt. The methods(s) we use are largely dependent on the situation/context we are in and the nature of the doubt experienced (2.3). It may therefore be appropriate to use highly 'scientific' methods – a RCT or it may be more appropriate to utilise a more interpretive, person-centred or participatory approach or mixed-methods. The method should match the presenting situation – the context (2.4) but be open to reflexive change on the basis of the results of drawing inferences from the process of the inquiry. These inferences may be deductive, inductive or abductive, with this iterative process generating a phronetic approach to the process of inquiry (2.5). Subsequent to this, the process of initial inquiry may lead to the development of a formal research process (2.6) in order to produce knowledge in a more controlled and defined way. The principles governing this 'formalised' approach are the same for that of inquiry, although the methodological approach and the methods may be developed by reference to more explicit and formal criteria, although its orientation must be phronetic (iterative).

7.5.3 Knowledge: Transfer

In order to determine whether the knowledge we possess is appropriate, we need to consider whether it is situational knowledge of a contextualised (3.1) sort, or more generalised knowledge of a decontextualised (3.2) nature, or it may have elements of both. By 'situational' is meant knowledge (from whatever source) that appears to have a higher degree of relevance to the particular situation and its context than 'general' knowledge which is knowledge that could be applied to more or less any situation and has little specificity to the context at hand, although it may have relevance (for example, the law). The decision of which knowledge to transfer or choose to use is one for the practitioner. Here, they draw on their own judgement as to what they think is more likely to be of most use by reference to the pragmatic maxim. It may be however that certain policies/procedures or other protocols/statutes regarding what knowledge to use are extant, so the choice may well be a 'forced' one. Nonetheless, the presence and underpinning axiology inherent within the pragmatic maxim ought to orient the practitioner to a rejection of these extant ways of doing if they appear to be at odds with the context or their

assessment and understanding of the broader situation. It is in situations like this that consultation with colleagues or others may take place (3.3).

7.5.4 Knowledge: Use

What knowledge use, and how to use it are inherent and symbiotic components of this dimension. When using knowledge, what is used and, importantly, how it is used are guided by reference to the pragmatic maxim (4.1). The applicability and ergo the use of the knowledge is applied to the specific context (4.2) with due regard being had of the changing nature of this, as any intervention is likely to generate some reaction. The type or form of knowledge used is determined by reference to context, but can legitimately be drawn from any plausible source (4.3). In using knowledge, this is likely to represent a personal investment of one's own personal resources (energy, emotions) and may exact a personal cost (distress, feelings of achievement or otherwise) (4.4.). Similarly, the use of knowledge will represent an investment from or via the organisation in terms of time, money or other material resources, as well as time and support for the practitioner to address issues brought by the act of using the knowledge (support, supervision, consultation, evaluation) (4.5). The use of knowledge will always involve a personal and an organisational element, and it may also involve colleagues – a community of practice (4.6), either in terms of facilitating and supporting the use of such knowledge directly, and/or in terms of supporting its use by supporting the individual and/or the organisation in understanding how the knowledge was used – was it used correctly, is it of use to other practitioners, or the wider community/public? (4.7).

7.5.5 Knowledge: Development and Dissemination

This refers to the role of the individual (5.1), of any communities of practice (team members, wider organisational colleagues, other agencies, professional organisations etc) (5.2), the organisation (5.3) and the wider community or public (5.4) in relation to developing and/or disseminating the knowledge used. Any or all of these may undertake such development, and such activity may involve the instigation of formal research processes, methodologies and methods as referred

to in 2 above, but would proceed phronetically following abductive analysis of its potential (5.5). The dissemination of knowledge may involve the use of formal knowledge brokers, or the use of others at a local level providing a similar service, including the organisation itself that may choose to incorporate and share its knowledge findings in policies/procedures and other codified forms (5.5).

It is however necessary to point out that the schematic representation of the model presented above underplays its dynamic nature, much like the evidence will always underdetermine the 'facts'. Once we understand the overall process and the relevance and interrelationships between the elements, it becomes possible to move these around to suit ones purposes. The actors who understand and engage with the model and use this in a way that suits the purposes of the situation inject the dynamism. The model is simply a model – a theoretical construct that may assist practitioners in engaging with situations in ways that generate new synergies and connections – ones that may never have existed before. The success of the model (any model) is dependant on the extent to which the practitioner makes it work for them, and the extent to which organisations allow practitioners to spend time using the model, reflecting on and refining its applications as these relate to their situations.

7.6 Possibilities for and Some Implications of a Pragmatic Epistemology

If we refer back to the beginning of this section we can see how 'cluttered' the current social work knowledge landscape is with its various models and claims of privilege for certain approaches over others. Each of these models says something important and of relevance, and even those who argue for the pre-eminence of certain ways of knowing and doing over others do so with style and commitment. However, what none of them do with any ease is present the issues straightforwardly nor in a way that recognises the value of diverse ways of knowing and doing. The broader philosophical, epistemological and professional literature, as well as some of the social work literature is able to provide an overview of the many issues extant in this discussion, but it is a very large overview with many

elements and as such it is difficult to disentangle these in such a way as to make them accessible in order that understanding them may contribute something useful to the debate *and to practice*, rather than simply perpetuating *the* debate, *ad nauseum*.

A pragmatic epistemology does not seek to 'better' these models or to dismiss the important discussions contained within the various writings that do exist. What it *does* seek to do is to simplify the matter by referring to core principles that are applicable to all the issues raised elsewhere. In doing so, it allows for the various discussions to (re-) orient themselves to what really matters about professional knowledge and to consider, more realistically, how to make the best use of the widest range of knowledge in order that adaptation to the needs and demands of the situation can be as focused as possible within practice (Borden 2013). A pragmatic epistemology is inclusive, rooted in experience and practice, value-laden, and democratic.

The findings from this study suggest that practitioners are working in complex and contested environments, often unsure of how they ought to come to understand the problems they are to deal with, and what to bring to bear on these from the perspective of relevant, functional knowledge. Do they simply do what others have told them to do, irrespective of whether this seems to 'fit' with what their senses and experience tell them, or do they just 'have a go', not knowing whether the knowledge they think might be useful is allowed or valued? What do they do with the knowledge they have amassed, sometimes over many years? How could others benefit from this? These and other themes and issues identified from within this study accord with what the broader literature also testifies too – a confused and confusing terrain regarding one of the most important assets they possess – knowledge.

In developing a pragmatic epistemology, consideration has to be given to some of the implications that might arise from its adoption as a credible framework. In terms of issues relating to the source and types of knowledge this framework seeks to

endorse, any concerns over legitimacy or appropriateness can be monitored and responded to by reference to the practitioner's own professionalism, external referents (codes of conduct; professional standards; contractual obligations) and motivations, as well as by employer/organisational policies, strategies, review, development and support mechanisms. One of the issues within debates such as this one is that there is a tendency to try and construct models and processes regarding knowledge and practice that encompass and legislate for any and all eventualities in terms of where it might or ought to come from and how it should or must be used. That should not be the function of such discussions or the models that these espouse. If the profession accepts the philosophical, epistemological and practice-related arguments that precede and underpin the adoption of such a model, then nothing is lost in relation to accountability. On the contrary, there is much to be gained by practitioners taking full ownership of what they know and with what they do with what they know. After all, one must assume that such professionals are both morally responsible and possess agency in line with Aristotle's theory of responsibility (Müller 2015). There was in this study a sense of detachment from those respondents who were engaged in routinised practice, although their passion for the work they were involved in was still evident, if muted. By recognising, honouring and celebrating creativity, the profession and the people who receive services and employers are all going to benefit.

7.6.1 Implications for Individuals

It is then the responsibility of all those actors involved in practice to take responsibility for their own actions or inactions, for their choices and the consequences that follow. It is also the responsibility of those who are charged with delivering these (very) human services (the employers/organisations) to ensure that they use the resources they have to best effect. The biggest resource of any human service is the people who populate it, and they bring with them all of themselves and lots of knowledge and experience. To be sure, this needs to be 'topped up', developed, shaped and guided to suit the purposes of those it is intended to benefit, but to deny the essence of what it is to be a knowing human being with full agency is to trivialise what it means to be a professional. It is therefore important that the

concept of the ‘learning organisation’ be made explicit and functional (Massaro, Dumay and Garlatti 2015; Deverell and Burnett 2012; Gau 2011; Örtenblad 2001). Current frameworks in professional social work aim to reflect these aspirations in the shape of support, guidance and assistance given to newly qualified staff under NQSW/ASYE schemes (Smith, Willimas and Ward 2015; Grant, Sheridan and Webb 2014; Manthorpe *et al* 2014; Welch, Lerpiniere and Young 2014; Novell 2013; Carpenter *et al* 2012; Skills for Care 2012) and various manifestations of continuous professional development programmes for qualified (Brady 2014; Moriarty and Manthorpe 2014a; Halton, Scanlon and Powell 2013) and experienced staff, all of which are ‘pegged’ to professional/registration and career enhancement. Thus, it is not the function of a model of knowledge to provide solutions to issues of accountability.

7.6.2 Implications for Organisations

It is important that the systems that support and provide services are sufficiently attuned to their role in this pragmatic endeavour. Cavaleri (2005) draws interesting parallels between systems thinking and the principles of pragmatism. He rightly notes: *“Systems thinking and pragmatic knowledge creating-processes are both defined by their grounding in how things actually work in practice.”* (p379) and to this extent they are both concerned with cause-and-effect. Systemic thinking is likewise concerned with defining systemic patterns of causal relationships (Senge 1990), and the writings of a number of systems thinkers have pragmatism imbued throughout their writings (Churchman 1971; Ackoff 1974; Argyris 1990). The significance of a pragmatic epistemology for organisations and other systems is that it also helps the system to identify what works well, and why this might be so. The adoption of the pragmatic principle at an organisational level can help to identify and build upon past successes and enhance organisational excellence (Alexanderson *et al* 2009; Martinez-Brawley 1995). If a system becomes perturbed, then the response has to be to inquire into the reason for this. Using the framework referred to above, an organisation can seek to remove the ‘doubt’ and restore the system to optimal functioning. In this way, a pragmatic learning organisation (Cavaleri 2008, 2011; Edwards 2011) can maximise its own resources (people and

the knowledge they possess) by attending to its own proximal organisational needs and its resource needs by encouraging that resource (its people) to maximise their own resource potential (Rowley and Gibbs 2008; Kaiser, Fordinal and Kragulj 2014; Senge 2014).

This is a complementary process whereby the experiences of the system are influenced by the very things it seeks to manage. In symbiotic response to (let us assume) poor staff performance, poor development processes or micro-management, the systems resources become less than efficient – the knowledge generating processes of the system used to identify and maintain optimum performance - beliefs (warranted assertions about the best way to maintain optimum functioning of the system), in this case about how to act towards employees - are compromised by the beliefs (warranted assertions) of the employees themselves about the beliefs (warranted assertions) of the organisation – a vicious circle. The knowledge management of the system needs to be interactive, engaged and adaptive by reference to the utilisation of the pragmatic 'lens' (Cavaleri 2011; Labedz, Cavaleri and Berry 2011; Gabbay *et al* 2003).

7.6.3 Implications for Practice and for Knowing and Doing

What organisations (and the profession(s)) need to do is to give practitioners 'permission' to inquire in these ways and to apply the knowledge *they possess, as individuals* in ways they believe are relevant and appropriate. The value-base of the profession, the employment contract and other structural elements protect service users and the organisation from poor practice because of poor knowledge use in the same way that these structural elements aim to protect against other things. A model of professional knowledge is not explicitly designed to do this – nor should it be. If such a model does have some function in this regard, it is extant by virtue of the model's aim to encourage the best possible use of the fullest possible range of knowing to inform doing in order to maximise success (outcome-focus) and enhance wellbeing (value and process focus). To attempt to create a model of knowledge and knowing that legislates against any future 'malpractice' based on poor knowledge use is to misunderstand this whole issue.

In terms of practice, if the profession, its organisations and those practitioners concerned consider the principles of the model outlined above and relate these to practice situations, there are likely to be significant changes to practice. As the results of this study seem to show, many practitioners *in particular fields of practice* already function in ways that evidence alignment to the principles and properties of a pragmatic epistemology. Through the use of the (learning) organisations systems and processes already extant: training, CPD, supervision, team cultures (Chang and Lin 2015; Nerland and Karseth 2015; Messenger 2013) systems could be developed to facilitate the articulation of the knowledge processes operational within practice contexts. Knowledge from a range of sources could be factored in to daily practice through simple recording tools to form a baseline of knowledge for practitioners to use. Knowledge-brokering activities, already visible in many if not all organisations to some extent, could be more easily tailored to the needs of practitioners by reference to their increased capacity to articulate not only what they *do know*, but also what they feel they *need to know.* The democratic ethos of pragmatism, and the everyday-nature of inquiry should be capitalised on to prompt engagement with knowledge definition, production, transfer, use, development and dissemination. All of us 'inquire' every day into all aspects of daily life. The principles of 'scientific' or 'professional' inquiry are merely more systematic; their underpinning principles are common, universal and available to all.

This section has provided an analysis and interpretation of the findings from this study and argued that the philosophical traditions of pragmatism could provide a viable means of representing ontology, a functional epistemology and a contribution to discussions regarding the philosophy of science for social work practice and research. Its orientation to issues of ontology, epistemology, the nature of inquiry and its commitment to fallibilism provide a means to go beyond the current debate between realism and interpretivism by emphasising its starting point as being located within our everyday lived experience.

All inquiry, and pragmatic scientific inquiry in particular, starts from and with the problematic situations we face in social life, giving such inquiry an essentially humanistic and normative character. The social work profession is exactly this, writ large. The contribution of any form of 'scientific' endeavour is ultimately judged solely on its capacity to resolve human problems, address human needs and widen our understanding of what is possible, providing us with some of the means to achieve our hopes and aspirations. Pragmatism acknowledges the fallibility of all methods and approaches to achieve absolute certainty, and unlike other approaches to science, takes seriously the value of utilising those that have proven themselves to be more reliable than others in reaching warrantable assertions. In the end, all our inquiries should *"end in conclusions which, when they are referred back to ordinary life-experiences and their predicaments, render them more significant, more luminous to us, and make our dealings with them more fruitful."* (Dewey 1929a pp9-10).

Social work is located within the realm of those everyday, ordinary life-experiences – our own and those of the people we work with and for. We must therefore not privilege the means by which we might come to understand these, but use the best of all we have to do the best we can. It is therefore important to recognise that the development of a model such as the one referred to above, based on empirical inquiry and theoretical consideration, has practical relevance to the profession and to those who constitute this. This model is a contribution to the means by which professionals can utilise the fullest array of knowledge in the pursuit of their craft and the delivery of services that can claim to be *as fully informed as possible*. It avoids the circuitous debates regarding what should or should not be privileged by providing a more democratic focus on the use of the fullest range of human (and professional) knowledge in a way that encourages autonomy, foregrounds accountability and offers the means for future research and development in and of its potentials across a plethora of professional contexts.

7.7 Limitations and Innovations

7.7.1 Limitations

As with any study, it is important to reflect upon its perceived limitations, be they theoretical and/or empirical. It is acknowledged that the sample size (*n*=37) may not be representative of the whole class of social workers to which attention was focused. At one level, this represents an issue of generalisability from the empirical perspective and, ergo, raises issues concerning external validity (Silverman 2014; Wetcher-Hendricks 2011) referred to in chapter four. However, the findings do resonate with the broader literature so there is a degree of coherence in this regard that lends support to the validity of the findings. It might also have been more beneficial to have been more purposive in relation to the sample. A future study along these lines might well seek to identify *n* x social workers from two or more particular fields/areas of practice. This could enable the researcher to inquire more into the extent to which particular roles influence knowledge definition, use, development etc. beyond that achieved here.

Quantitative and qualitative analyses might also have had more of a focus on the significance or otherwise of *individual Q-sorts* and commentary may well have considered these. This type of analysis might well have practical relevance in informing locally based knowledge management strategies and could have impact at a number of levels. In particular, the mixed method approach adopted here has the potential to enhance the credibility of both types of data.

In relation to the qualitative elements of the study, it is acknowledged that follow-up interviews would have been beneficial. If these had been undertaken at (say) an interval of twelve months, this would have provided important information on the extent to which views at the time of the first data-collection tranche held over time, and to what extent they were then accurate. This would then facilitate inquiry based on the nature of professional knowledge in terms of its changing and evolving nature, as posited by pragmatism. Of particular interest through such an approach would be the opportunity to discern what particular elements of earlier views had

changed, and what it was practitioners felt had prompted this. There is scope here to engage in longitudinal research, which would address broader aspects of validity.

These limitations notwithstanding, the inquiry as conducted utilised the available methods as effectively as possible and as a result, the many potentials evident in using Q-methods in social work research are more evident.

7.7.2 Innovations

There are a number of innovations evident within this study. Firstly, the adoption of a mixed-methods approach not only utilises the strengths of both quantitative and qualitative approaches, whilst minimising the impact of their inherent weaknesses (see chapter four), but such an approach remains faithful to the pragmatic paradigm. Secondly, the use of a factor analytic approach, with its statistical credentials, adds weight to the validity of the study. Third, the adoption of Q-methodology with its focus on the importance of subjectivity ('self-referent perspectives') allows for 'hidden meanings' within (copious amounts of) data to emerge and be analysed. Finally, the use of the approach referred to here has enormous potential as it is applicable to an almost infinite number of situations, particularly those where difficult or 'taboo' themes may need to be explored. As chapter four illustrated, there are many topics where Q has been applied successfully.

Both the limitations of the study and its innovations provide possibilities for the future. Excitingly, Q-methodology has not yet 'surfaced' within social work as a 'method of choice' for researchers. Its (relative) simplicity, powerful statistics and elegant descriptiveness offers the potential for an emergent corpus of studies utilising Q that could focus on topics perhaps not yet fully explored, or those that are rather more difficult to engage with using more 'traditional' qualitative approaches. Furthermore, its capacity to process large amounts of data not only provides the opportunity to undertake large studies on topics of relevance to the profession(s), but to explore some of the 'darker' or more 'difficult' areas of social

work practice around abuse and neglect, violence, and employment or professional matters using large samples to increase validity. Conversely, it is flexible enough to justify its use in small-scale studies.

Another innovative feature of this study has been its philosophical approach. The study has utilised philosophical/epistemological arguments to address professional and practical issues, thus evidencing the value of ‘practical philosophy’. At the practice level, being aware of how we make and draw inferences and how these can and ought to be tested and refined is absolutely fundamental to every professional, and yet most would probably shy away from the very mention of the word ‘philosophy’, let alone ‘epistemology’. This is what professional social workers do every day – they draw inferences based on their observations and experiences and act accordingly. This is epistemology in action. Moral philosophy ‘in action’ is represented by reference to both our personal and professional value base, so there is no compelling reason for the underpinning principles of knowledge definition, creation and use not to be articulated in an easily digestible form, in the same way as virtue ethics is.

This study has highlighted and articulated a functional means by which the benefits of the underpinning principles of a pragmatic epistemology can be brought to bear on the real world of social work practice.

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Appendices

Appendix 1 Dundee Ethics Application

UNIVERSITY OF DUNDEE UNIVERSITY RESEARCH ETHICS COMMITTEE APPROVAL FORM

Title of project: UNDERSTANDING PROFESSIONAL AND OTHER FORMS OF KNOWLEDGE

Name of lead Investigator: STEVE J HOTHERSALL, School of Education, Social Work and Community Education

Status: *Student*

Other Academic Staff involved: PROFESSOR TIM KELLY [Principal Supervisor] and DR IAN BARRON [Second Supervisor], School of Education, Social Work and Community Education

E-mail address: S.Hothersall@dundee.ac.uk

Date: 9th May 2012 UREC Ref no. (LEAVE BLANK):

		YES	NO	N/A
1	Will you describe the main procedures to participants in advance so that they are informed about what to expect in your study?	√		
2	Will you tell participants that their participation is voluntary?	√		
3	Will your participants be able to read and understand the participant information sheet?	√		
4	Will you obtain written informed consent for participation?	√		
5	If the research is observational, will you ask participants for their consent to being observed?			√
6	Will you tell participants that they may withdraw from the research at any time without penalty and for any reason?	√		
7	With questionnaires, will you give participants the option of omitting questions they do not want to answer?	√		
8	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	√		
9	Will you give participants a brief explanation of the purpose of the study at the end of their participation in it, and answer any questions?	√		
10	Will your project involve deliberately misleading participants in any way?		√	

11	Is there any realistic risk of any participants experiencing either physical or psychological distress or discomfort? If Yes, give details on a separate sheet and state what you will tell them to do if they should experience any problems (e.g. who they can contact for help).			√	
12	Do participants fall into any of the following special groups? If YES please specify disability. Note that you may also need to obtain satisfactory Disclosure Scotland (or equivalent) clearance.	Children (under 18 years of age)		√	
		Children under 5 years of age		√	
		Pregnant women		√	
		Participants studied with respect to contraception or conception		√	
		People with disability (e.g. learning or communication difficulties)		√	
		People in custody		√	
		People engaged in illegal activities (e.g. drug-taking)		√	
		Non-human animals		√	
		Patients		√	
		More than 5000 participants		√	

Please tick **either** Box A **or** Box B below and provide any details required in support of your application. If you ticked NO to any of Q1-9 or YES to any of Q10-12 then you must tick Box B.

A. I consider that this project has **no** significant ethical implications to be brought before the University Research Ethics Committee.	√

State the purpose of the research. Give a brief description of participants and procedure (including the planned sample size and methods and tests used). This description must make clear what participants are expected to do. You must also make clear how data (e.g. video tapes) will be kept confidential and secure. Note that this description will be read by non-specialists and must be readily comprehensible by a lay person.

You must attach intended information and consent forms and copies of any questionnaires you plan to use.

The research aims to explore the [subjective] views of professional social workers and other (non-social work) professionals on the topic of professional knowledge, and elements thereof, by utilising a Q-methods approach. Participants are presented with a number of statements (the Q-sample – attached) and are asked to sort these into an array locating each statement somewhere across a continuum to indicate those they *most agree with* (+5) through to those they *least agree with* (-5). This is referred to as the *condition of instruction*. Participants must however place all statements somewhere in the Q-sort, although there are no particular time constraints and they can change their minds as to what goes where as many times as they like until they are satisfied with their array. At this point, the procedure is complete. A blank Q-sort is attached. *P*-set 3 however will have a slightly different condition of instruction (see below).

Participants of *P-set* (group) 1 will be qualified social workers employed within a local authority social work area and recruited via email. Permission has been obtained from the Head of Children's Services for me to make direct (e-mail) contact with social workers and invite them to participate. My invitation e-mail will contain basic information regarding the study and have attached to it a copy of the *Participant Information Sheet*. If a social worker wishes to participate in the study, they will be asked to e-mail me to confirm this and I will then contact them with details regarding the completion of the Q-Sort.

Participants of *P*-set (group) 2 will be non-social workers but will possess a professional qualification and have considerable previous professional experience in an unrelated profession (business studies, accountancy, computing) and will be recruited via e-mail from across the Robert Gordon University staff pool. Permission for me to approach staff directly has been obtained from the respective heads of departments and the protocol for initial contact and invitations to participate will be as for *P-Set* 1 above. Both *P*-sets are randomly matched on other broad demographics including the possession of a professional qualification.

Participants of *P*-set (group) 3 will match the characteristics of *P*-set 2 but will be working on a slightly different *condition of instruction* from the other *P*-sets. In the case of *P*-set 3, they will be asked to score the statements *as they think social workers will have scored them*.

I aim to recruit 6-12 participants in each *P*-set (group). One of the benefits of the Q approach is that it can effectively deal with small sample sizes. However, I will ensure that data sets, once produced, are of equal numbers from each of the *P*-sets prior to analysis. Data provided will be numerical and apart from age, gender and years qualified (*P*-set 1), there will be no identifying material at all unless participants undertaking the Q-Sort agree to be involved in phase 2 (see below). The use of 3 *P*-sets allows for the triangulation of data sets.

All data will be securely stored through a password-protected system. There is no identifying information on the Q-sort other than age range, gender and length of/type of qualification. However, there is the option for participants to identify themselves if they wish to participate in a second phase inquiry relating to the factor scoring of their responses, *post-analysis* by undertaking a semi-structured interview (max of 4 from each *P*-set). The specific questions to be contained in any interview schedule can only be determined once analysis with *Q-Method* (http://www.lrz.de/~schmolck/qmethod/) has been completed in order to establish which questions were weighted significantly. However, questions will be of the order of 'You rated highly on statement(s) X and Y: why was this particularly important/unimportant to you?' and responses noted. All responses from the interview phase will be analysed thematically and may be subjected to subsequent analysis with *Q-Method*.

In relation to the initial Q-Sort phase, venues will be negotiated and specific terms and conditions as set out in the appropriate participant information sheet(s) will apply. There are no additional risks anticipated in relation to the initial Q-Sort and all original paper-based data will be stored securely for a period of 2 years following the completion of the thesis to which this empirical work applies, after which time it will be securely destroyed in its entirety. The resultant data-set produced via *Q-Method* analysis will be securely held for a period of 5 years following the completion of the thesis, after which time it will be deleted.

In relation to subsequent semi-structured interviews, a separate protocol and participant information sheet will be submitted for final ethical approval once an interview schedule is developed subsequent upon the initial Q-Method analysis having generated a range of weighted questions. In the interim, the following information may be of use: interviews would be of 1-hour (max) duration at a negotiated venue and written consent from each participant would be obtained prior to interviews being organised. A SSI schedule will be available and all respondents will be asked the same [semi-structured] questions. Responses will be noted by the researcher using pen and paper and subsequently analysed thematically. Initial Q-Sort responses and subsequent SSI's will be matched by the use of a simple numeric coding system to reintroduce anonymity into the analysis. Original researcher notes and thematic analyses arising from these will be coded numerically and stored securely for the same periods as referred to above.

Arrangements appertaining to de-briefings are noted in the participant information sheet(s), although given the nature of the study and the tasks involved, I do not anticipate a specific requirement for de-briefing in the normal sense of that phrase. However, should a participant require further information about the study or its rationale etc, my details are available should they wish to contact me.

B. I consider that this project may have ethical implications that should be brought before the Ethics Committee.	

Please provide all the further information listed below in a separate attachment. Note that this description will be read by non-specialists and must be readily comprehensible by a lay person.

1. Title of project.
2. Purpose of project and its academic rationale.
3. Brief description of methods and measurements and how data will be stored.
4. Participants: recruitment methods, number, age, gender, exclusion/inclusion criteria.
5. Consent and participant information arrangements, debriefing.
6. A clear statement of the ethical considerations raised by the project and how you intend to deal with them.
7. Estimated start date and duration of project.

I am familiar with the University of Dundee *Code of Practice for Research on Human Participants*, and have discussed them with the other researchers involved in the project. I confirm that my research abides by these guidelines.

Signed: ..... Print Name: Steve J Hothersall Date: 9/5/12

(Lead Investigator)

There is an obligation on the lead researcher to bring to the attention of the Ethics Committee any issues with ethical implications not covered by the above checklist.

UREC v. 1.9, 15 December 2006

Appendix 2 RE UREC 12055 – approved

RE: UREC 12055 - approved

Astrid Schloerscheidt
Sent: 20 June 2012 17:35
To: Steven Hothersall
Cc: Astrid Schloerscheidt; Elizabeth Evans

Dear Steve

The email is fine. As for the issue of coercion, there is no issue☺ The fact that you contact them (or in the case of the social work staff somebody who is not their line manager) means they can decide freely what to do. So all is fine the way you have planned it.

Your study is approved.

Best of luck with your research.

Astrid

From: Steven Hothersall
Sent: 18 June 2012 22:20
To: Astrid Schloerscheidt
Subject: RE: UREC 12055 - revised documents

Dear Astrid,

Thanks for this. In terms of the email, the wording would be:

"Dear Colleague,

I am writing to ask if you would be interested in taking part in a short survey concerning professional knowledge? The survey is part of my PhD which I am undertaking at the University of Dundee and would involve you looking at a series of 60 short statements and organising these in a 'Q-Sorter' grid based on how much you agree or disagree with each of them. The whole thing would take less than 1 hour to complete. I have attached a participant information sheet which gives more detail as to what is involved, so if you are interested, please open the attachment and contact me if you would like to participate. I am happy to negotiate with you as to when and where would be most suitable to sit down together to do this. Many thanks, and I hope to hear from you."

I hadn't really considered the 'coercion' issue, but glad you raised it. Do you think I should say that I've had permission to contact them, or would that amount to implied coercion? I don't want this to become a major obstacle, so your thoughts would be welcome. In terms of getting this e-mail to social work staff in children and families teams across Aberdeenshire, I would need to ask an employe of the Council (not the person who gave me permission - the Head of Children's Services) to send it out on my behalf as I don't have access to their intranet. This would be from a worker at the same level as those who receive the email but who works in strategic development and planning - they have no line management responsibility for these staff at all. Would that be acceptable?

Many thanks for your help, Astrid. I look forward to hearing from you soon.

Steve

From: Astrid Schloerscheidt
Sent: 18 June 2012 17:26
To: Steven Hothersall
Cc: Astrid Schloerscheidt

PAC 2

Subject: Re: UREC 12055 - revised documents

Dear Steven,

many thanks for sending the revised documents. These are all fine. I also note that you will be submitting the participant information sheet, consent form and interview schedule for the planned SSIs to follow up the Q-sort.

I'm afraid there is one very small thing I will need to ask you for. Could you please let me have the wording of the email you will be sending out to potential participants. Once I receive this, I should hopefully be in a position to approve your study.

Best,

Astrid

On 13 Jun 2012, at 20:42, Steven Hothersall wrote:

Dear Astrid,

Thank you very much for your comments: they were very helpful. I now attach for your perusal amended versions of the documents submitted last time [except for the 2 x concourses and the Q-sorter, all of which remain the same] which I now hope are 'fit-for-purpose'. I have amended them in accordance with the issues raised in your email below. I hope they are now satisfactory, and the issue of direct contact is hopefully more transparent than it was.

I would also like to add that in relation to the SSI's, I have added some information into the protocol in the interim and, as you will see, have stated that I shall submit a full interview schedule at the point of wishing to arrange these - I hope this addresses the issue. Finally, please note that in the Participant Information Sheets I have included my work e-mail for participants to contact me rather than my Dundee e-mail - this is for purely pragmatic reasons.

I look forward to hearing from you in due course.

Steve

From: Astrid Schloerscheidt
Sent: 06 June 2012 13:35
To: Steven Hothersall
Cc: Astrid Schloerscheidt
Subject: UREC 12055

Dear Steve,

Firstly, my sincerest apologies for the delay in reviewing your ethics application. Exam time is, unfortunately, always a very busy time for all committee members, so it was difficult to keep the reviewing process on track during this time.

I have now had a chance to review your application. There are no ethical concerns regarding your study, however, there are a few procedural issues that need clarification before I can approve your study.

From the study description it is not entirely clear how you are actually intending to conduct the study. Are you actually meeting the participants and they will fill in the Q-sorter on paper or will you send the participants an electronic version which they will return to you? Could you please clarify in the study protocol.

App 2

Recruitments: Some of the emails you provide as confirmation that you are allowed to contact staff at the various places you intend to recruit sound as if the Head of Department or Line Manager is going to send the invitation. Could you please clarify? To avoid any danger of coercion, you should be contacting staff directly.

You outline that you intend to recruit a number of the participants for semi-structure interviews to elucidate issues that arise from your initial analysis by asking interested participants to add their details to the Q-sorter they fill in. This is itself not a problem, however, it does compromise the anonymity that you promise in the Participant Information Sheet. To circumvent this problem, could you please add a sentence or two to make this clear that in case participants opt for this, their responses are not anonymous. I appreciate that the participants will be well able to work that out, however, the information sheet needs to contain all relevant information and this is an important aspect of what you ask them to do.

A minor issues is that you would need to add information to the study protocol regarding the length of time you intend to store the data.

With respect to the SSIs you propose. There is currently not enough information in the study protocol that would allow me to approve this stage of the research. There are two options here. You could add the information (see below) to the current application and I could give preliminary approval for the SSIs subject to you submitting the planned interview schedule prior to commencing the interviews. The other option is for you to submit a new application for the interviews. In either case, you will need to provide a study protocol for the interviews (currently you refer to the procedures outlined in the PIS, but you do not give any information there about the interviews). How long will they take, where will they happen, how do you intend to collect data (notes or audio?), how is data stored, for how long etc.? You will also need to provide a PIS and this time you would need to obtain written consent rather than electronic consent (again, the consent you propose in the current application covers the Q-sorter but not an interview). If you intend to audio-record interviews you need to outline this in the PIS and you need to add a tick-box on the consent form so that participants can agree to the audio-recording.

You can send the revised documentation to me directly by email, and I should then hopefully be in a position to approve your study soonest. Again, my sincerest apologies for the delay you experienced with this application.

Best regards,

Astrid

Dr. Astrid Schloerscheidt
Chair, University of Dundee Ethics Committee

<Dundee ethics May 2012 v2.doc><Participant information sheet Paper SW June 2012.doc><Participant information sheet Paper non-SW June 2012.doc><Participant information sheet Paper non SW compare June 2012.doc>

Appendix 3 Participant Information Sheet/Agreement to Participate Sheet

'Understanding professional and other forms of knowledge'

A study being undertaken by Steve J Hothersall as part of his PhD.

Principal PhD Supervisor: Professor Tim Kelly – T.B.Kelly@dundee.ac.uk

Second PhD Supervisor: Dr Ian Barron – I.G.Z.Barron@dundee.ac.uk

INVITATION TO TAKE PART IN A RESEARCH STUDY

You are being invited to take part in a research study, which is looking into people's views on professional knowledge: how people get it, how important it is, how it is used etc. The study will look at the views of both social work professionals and non-social work professionals so as to provide a point of comparison.

PURPOSE OF THE RESEARCH STUDY

This study is exploring the views of social work professionals and non-social work professionals regarding professional knowledge. All professionals undergo training of some sort or another before they begin their work and once in practice they need to use this alongside knowledge gained through experience and other forms of training and development. I want to try and understand where people get their knowledge from, how they use it and whether some sorts of knowledge are seen as being more useful or important than other sorts. I shall be doing this by presenting participants with 60 randomly numbered statements that are to be rated according to whether it is more or less like you/your view about a particular statement. So, if you *disagree* really strongly with a particular statement, you would rate it at -5, whereas if you *agree* really strongly about another statement, it would be rated as +5, and so on until all the statements have been assigned a 'score' in the Q-sorter, which is like an inverted pyramid. There are no right or wrong answers: what is important is how important or not *you* think the statement is in relation to *you*. The Q-sort will be done as a paper-based exercise and if you agree to take part, you will be given copies of the statements and instructions on how to complete the Q-sorter.

I hope that participation in this research will benefit academics and practitioners in social work and other forms of professional practice by helping us to understand more about how we develop and use professional knowledge. I hope that it will have practical benefits by contributing to issues relating to workforce development and planning, continuous professional development and both pre-and post-qualifying social work education.

TIME COMMITMENT

The study will require you to spend about 15 minutes reading through the instructions and then 1 hour (max) completing the Q-sort.

TERMINATION OF PARTICIPATION

You may decide to stop being a part of the research study at any time without explanation. I would however ask that you email me to simply advise that you've changed your mind.

RISKS

There are no known risks for you in this study. However, if you find spending a continuous period on a particular task difficult, please advise me before the start of the study and we can arrange for you to have a break mid-way through.

COST, REIMBURSEMENT AND COMPENSATION

Your participation in this study is entirely voluntary and there are no inducements offered or implied or any penalties for not completing the Q-sort. I would however be very grateful if you could complete the Q-sort if you have agreed to do so. There are no financial benefits likely to arise for anyone in relation to this research.

CONFIDENTIALITY/ANONYMITY

The data I shall collect will not contain any personal information about you except your gender, your age and the number of years you have held a professional social work qualification (if you are in that group), all of which is written on the bottom of the Q-Sorter. Once you have completed the Q-Sort, that's the end of your involvement. If however you would be happy to participate in a further, confidential semi-structured telephone interview, which again would last no more than an hour, please note your name and a contact number on the Q-Sorter when you complete it. If you do provide your contact details for the semi-structured interview, your responses are (obviously) no longer anonymous, although they are still *confidential* and no identifying information of any sort will appear in the final results/thesis, and in the event that the results are published or are otherwise made available in the public domain, there will be no identifying features that could link you personally to the study.

FOR FURTHER INFORMATION ABOUT THIS RESEARCH STUDY

I will be glad to answer your questions about this study at any time. Alternatively, you might want to contact either of my supervisors (details above) who will similarly be happy to discuss with you any questions or queries you may have at any time.

If you want to find out about the final results of this study, you should contact myself as noted below.

WHAT TO DO NEXT?

If you agree to participate in this study, please email me at s.hothersall@rgu.ac.uk stating that you have read and understood the information above and that you agree to take part in the study. There's a bit below you might want to cut and paste to save yourself some time:

"Dear Steve,

I have read and understood the Information relating to your study entitled 'Understanding professional and other forms of knowledge' and I agree to take part in it. Please contact me with the details of when, where and how I can do this.

[Insert your name, email address and a contact number here]"

As soon as I hear from you I'll be in touch to fix up a mutually convenient date, time and place to meet in order to do the Q-Sort.

I look forward to hearing from you soon. Many thanks.

Steve

s.hothersall@rgu.ac.uk

01224 263227

Appendix 4 Concourse of Statements

1. Knowing how to do something is more important than just knowing about something

2. New knowledge is best if it comes from your own practice and experience

3. I do things differently depending on the situation I find myself in

4. Specialist knowledge is essential for social work [my job/role]

5. Just doing my job on a day-to-day basis is enough to keep me up-to-date

6. It's important to be able to say what theories you used in a particular situation

7. I need to understand something properly before I'll try it out

8. I use whatever knowledge I can to make things work at the time

9. Knowing a lot about a little is better than knowing a little about a lot

10. There are some things that *every* social worker [*everyone in my job*] needs to know; otherwise they couldn't do the job

11. There are some things in my job that cannot be brought into question-some theories, ways of doing things and the like

12. I practise 'from the book' and 'by the book'; there's no other way to do if you want to get it right

13. My organisation invests heavily in training and staff development

14. Doing things according to the demands of the situation sits easily with me

15. There are prescribed ways of doing things and seeing things - there has to be in this job

16. For the most part I tend to ignore policy and procedure and 'go with the flow'

17. I base most of what I do and how I do it on what the experts or my bosses tell me is important

18. Specialist knowledge isn't necessary in my work

19. What informs my practice has to sit comfortably with what I personally believe is right

20. I'm happy to use knowledge from any source to inform what I do so long as it seems to work

21. Most of what I know about social work [my job] and how to do it comes from books and policy and such like

22. Clear guidelines in relation to what I need to know are essential for me

23. All social workers [Everyone in my role] should be able to do most types of [social] work irrespective of their particular specialism

24. Some children [people] will deliberately deceive an adult if it helps them to stay safe

25. A lot of the knowledge I have about my job could be used in similar types of work

26. The theory base of social work [underpinning my work] is full of stuff that's quite specific to social work [that particular role]

27. Experts and academics rather than practitioners are best placed to determine the whole issue of 'what works' in social work [in my job]

28. 'Scientific' or objective knowledge is much more reliable than 'experiential' or subjective knowledge you get from practice

29. I am able to specifically identify what theories I am using to inform my practice at any given time

30. A lot of the theories, research and other ideas that inform what I do are drawn from other disciplines and professions

31. Kids [People] who are securely attached are less likely to have serious relationship problems

32. I regularly use [specialised theories and models in my assessments] theories and models of attachment in my assessments

33. I usually adapt theories to suit my purposes

34. What is seen as important in terms of practice is determined more by what it costs rather than whether it does any good

35. I feel confident in making decisions based on my professional judgement in most situations (2/21=19)

36. It's fairly clear to me what social work [my job] is all about, so having the right sort of knowledge isn't a problem

37. Sometimes I just do what needs to be done without really thinking about it

38. Youngsters [People] who have insecure attachments usually have lots of problems

39. There's not much point in using personal knowledge about life in general and applying it to the job – it's not relevant

40. A lot of useful knowledge about social work [my work] is generated from actually doing the job

41. Linking theory to practice is something I do all the time

42. Knowing what you *should* do is more important than knowing what you *could* do

43. Using your professional discretion is encouraged in my job

44. I have read up on the Dynamic Maturational Model of attachment and I use it in my work [Certain types of knowledge are central to my work]

45. Some children [people] become aggressive or behave strangely in order to keep themselves safe

46. Theory and practice are like two different worlds to me

47. Talking with colleagues about what I do and how I do it helps me to learn new stuff and to understand the job better

48. I have a good understanding of attachment theory [the core theories that relate to my work]

49. It's probably fair to say that some parents [people] who hit their children [who harm those they care for] were actually only really trying to protect them

50. I feel I need to know more about procedures and how they work than I do about people and how *they* work

51. Knowledge of attachment theory [human development] is central to my work

52. All facts about the world and everything in it are only ever provisional: nothing is set in stone

53. Notions about what constitutes social work [what my role is] often change depending on how society sees things

54. The Bowlby/Ainsworth/Main model of attachment [Theories about attachment] helps [help] me to understand why adults behave as they do

55. Sharing my knowledge with others is essential in my job

56. I regularly read books and research papers about developments in social work [in my job]

57. There's only so much you need to know to be a good social worker [practitioner]

58. What I need to know depends on what I'm involved in at the time

59. A common-sense approach helps me a lot in my job

60. I have little confidence in research findings

Appendix 5 Q-Sort Grid

-5 [Disagree strongly/Most unlike me]	-4	-3	-2	-1	0 [Neutral/ Unimportant to me]	+1	+2	+3	+4	+5 [Agree strongly/Most like me]

Notes:

Appendix 6 Q-Sort Instructions

‘Understanding professional and other forms of knowledge’

A study being undertaken by Steve J Hothersall as part of his PhD.

Principal PhD Supervisor: Professor Tim Kelly – T.B.Kelly@dundee.ac.uk

Second PhD Supervisor: Dr Ian Barron – I.G.Z.Barron@dundee.ac.uk

INSTRUCTIONS FOR COMPLETING THE Q-SORT

Thank you for agreeing to take part in this study. I hope you will find it enjoyable.

You will now have 60 randomly numbered statements in front of you and a Q-Sorter, which looks like an inverted pyramid. You will see a range of scores at the top of the Q-Sorter going from -5 (totally disagree/not like me at all) on the left, through to +5 (absolutely agree/just like me) on the right. The other boxes (-4/-3/-2/-1/0/+1/+2/+3/+4) are gradations of those extremes, with 0 representing a completely neutral position.

What you need to do is to put the number of each statement in a different box to correspond with whether it is more/less like you or your view about it (disagree/agree). So, if you disagreed really strongly with a particular statement, you would write its number under the column marked -5. If you agreed really strongly about another statement, its number would go in one of the boxes under +5, and so on until you’ve put a different number in every box in the Q-Sorter from -5 to +5 (including 0).

Sometimes people find it easier to look through all the statements first and do a ‘rough’ estimation of those they feel really strongly about one way or the other (-5 or +5). Next, they might consider those that they feel strongly about, but perhaps not quite so much as the previous ones (these would be under -4 or +4), and so on, leaving perhaps until last those that would go under ‘0’ as being of no particular import or interest to them. But it’s entirely up to you how you do it and where you put the numbers! And if you need to change your mind, that’s fine [because you probably will!]. All you need to do is to write a different number in each box: you

cannot put the same number in two or more boxes! The completed Q-Sort must have all the numbers 1-60 in there somewhere.

Once this is done, check and make sure that you've noted on the form your gender, your age and the number of years you've been qualified as a social worker, and that's it. You could add comments at the bottom if you wanted – were some questions 'odd'? Did you find certain questions difficult to score? etc, and if you are happy to be contacted subsequently and in confidence to undertake a short semi-structured interview (no more than 1 hour), then please write your name and phone number on the Q-Sorter and I'll get back to you.

Good luck…and many thanks.

Steve

The University Research Ethics Committee of the University of Dundee has reviewed and approved this research study.

Appendix 7 Post-Q-Sort Questions

Of the statements you placed in the ‘agree’/plus [+] zone, were any of particular significance for you? Why was this?

Of the statements you placed in the ‘disagree’/minus [-] zone, were any of particular significance for you? Why was this?

Did the process highlight any general issues or thoughts for you in relation to knowledge and social work?

Appendix 8 Input Data

```
  0 37 60 phd2
 -5  5  0  3  4  5  6  7 10  7  6  5  4  3  0  0  0  0  0  0  0  0
sw37f15   -1 0 1 4-5 0-1 3-2 1-3-4 0-3 0-5-4-3 3 1 2 3 1 2 4-2 0
0-2-3 4-1 1 0 5 1-2 2-2 2-1-2 0-3 3-4 5-1-1 2 1 3 0 0 5 4-5 2-1-4
sw48f05   -1-2 0 3-4 2 0 5-1 1-3-5 1 0-3-5 2-3 0 0-3 5-1-2 2 3-2-1
2-2 1 4-2-1 3 0 1-1-4 4 2-1 1 0 0-5 3 4-2-4 4 1 2 3 5 0-4 1 0-3
sw54f12    3-3-2 1-5 1 0 3 0-1 4 0 2 0 1-4 2-4-3-4 1-2 1 4-2-2-1-2 3
0 5 0 2 2 1 0 0-1-1 3-3 0 4-1 3-5-4 5-1-3 1 4-3 5 2 2-5-1-2 0
sw45f09    3 2 1 1-4-1-2 2-5 3 0-2-1 3-2-5 2-2 4 0 0 2 1 1 1-3-5-4-1
3 2 3 5-2 2 0-1-1-2 5 0 4 0-3 5-4 4 4 0-3 1 0 0-1 0-1-4-3 1-3
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2 4 3-2 1 3-5 1 3-4 2 1 2-5 0-2-5-3 1-1-3 0 0 0 0 0 0-1-1-1 0
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1 3 4 3-1 5-5-3-1-1 2 2 1 1 2 0-4 3 0 0-4 3 0 0 3 4-1-4-1-1-3
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5-3 0 2 0-2 4 0-2-1-4 1 3 0 2 4-1-5 2 1-4-5 2-3-2 3 5 1-4-1 0-3
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0-1 3 0-4 2-1-1-2-2 0 1-3 1 3 4-4 5 1-5-5 5 1 1 3 3 0-3 0 1-2
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5 3 1 1 2 4-5 0 2-4 3 0 0 5 0 3-2 3 0 0-2 0 4 2 1 2-1-5 1 4-4
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sw55f03    2 0 4 4-3-1 4 0 0 5-1-5-1 1 2-5 1-2 0 1-1 5 1 4 0 0-3-4 1
0 3-2-1 3 3-2 1 2-4 2 0 3-4 0 2-3 5-1-5-3-2-2 0 1 3-1-2-4 2-3
sw27f01    4-3 3-1-3 2 1 4-4 0 1-1 3 1-1-3-2 0 0-2-1 2 1 3 0-1-4-5 2
0-2 5-3 1 2 1-2-2-1 4 2-2 4 0 3-5 5 1-4-5 5 0-1 3 2 0 0-4 0-3
nsw54f30   5-1 0-2-5 0-1 0 0 5 1-2 2-1 1-5-3-4 4-2 1 0-3-3 1-2-1-2
3-2-1 3-3-4 3 2 1 0-4 4 4 5 2 4 0-4 2 3 0-1 2 2-1 0 3 1-5 0 1-3
nsw62f40   2 1 1 4-1-3 4 5-2 5 3-1-2 2-3-3 0-5 1 3-2 0-5 1-1 2-4
0-2-2-3 2 3-4 5-1-3 0-4 3 4 1 2 1 2-5 0 0-4-2 4 0-1 3-1 1 0-1 0 0
nsw51f25  -2 0 5 2-3-3-2 0 0 5-2-5-1 2-4 0-3-3-2-3 0 0 3 3 2 2-2-5
0-1 4 1-1 0 2-1 1 2-4 4 1-1 1 3 5-5 4 3 1-4 1 4-1 3 1-2-1 0 0-4
nsw53f31  -2-2 1 0-3 1-1 2-3 3-2-2 1 0-1-5-2-2 2 0-4-4 0 2-1-3-3-3 0
1 4 4 0 0 3-1 0 2-5 0 1 1 0 2 3-5 3 5 3-4 5 1 2 5 4 4-4-1-1-1
nsw50m15   3 2 2 3-2 2-2 1-4 3-3-5 3 2-1-5-1-2 5 1-4 1 4 0 4-1-2-3-1
4 0-1 0-1 3 0 0 0-5 1-2 0 4 2 0-4 5 1 0-1 2 0-3-4 5 1-2 1-3-3
nsw54m13   0 1 2 5-5-2 4-2 0 4-3-5-1 2 0-5-3-2 0 1 1 3-1-4 0-1-2 2
3-1 1 3 1-4-1-4 0 1-2-1 5-4 0 0-2-3 2 4-3-3 3 0 0 2 5 4 2 1 3-1
nsw57m21   0 0-1 4 2-1 1 5 0 4-5-5 2 2-4-4-5-4 5 5-2-1-4-3 3 3-2-3 2
4 4 3 3-3 3 0 0 2-3 2 1 0 0 1 0-3 0 1-1-2-1 1-1 1-2 1-2 0-2-1
nsw33f06   3 1 5 4-3 1-2 5 0 2-2-5-2 3 1 5 1-4-2 4-5 0 0 0 0-1-3-5 0
0 0 2 1-1-3-3-1 1-4 2 3-1-1-4 4 3 4-2-2-4 2 0 1 3 2-1-3-1 2 0
nsw38f01   5 1 2 2-5-2-2 4 5 4-2-3-1 3-1-3-1-4-5 0-5 0 0 3 1-1-4-4 1
2 0 0 1-2 4-2 0 0-3 1-1-3 2 2 2-2 4 3-1-3 3 3 0 1 1 0-4-1 5 0
nsw47f20   4 2 3 4-3 1-1 1 0 5 0-3-5 0 2 3-5-3 3 0-1 0 5-1 0-2-4-1
1-2 0-2-2 0 4 1 2-2-4 1 5-1 2 2 1-4 0 3-4-5 0-1-3 3 4 2-3-2 1-1
nsw30f04   5-1 3-1-4-1 4 3 0-1-3-3-3 2-1-4-2-2-4 0-2 1 2 4 2 0-3-1-2
3 2-1 0 4 3-3 0 0-4 4 0 0 2 1 5-5 5 1-5-2 1 1 1 0 3 1-5 0 2-2
psw24f04   1-2 0-3-3 0-5-1 0-1-4 0 2 0 1 0 2 2 4-4-1-3-1-1 4 0 2-5 3
5-2-4-2 0 1 3 1-2-1 4 3-3 2 5 1 2 3-2-4 4 5-3-5 0 0 1-1 1-2 3
```
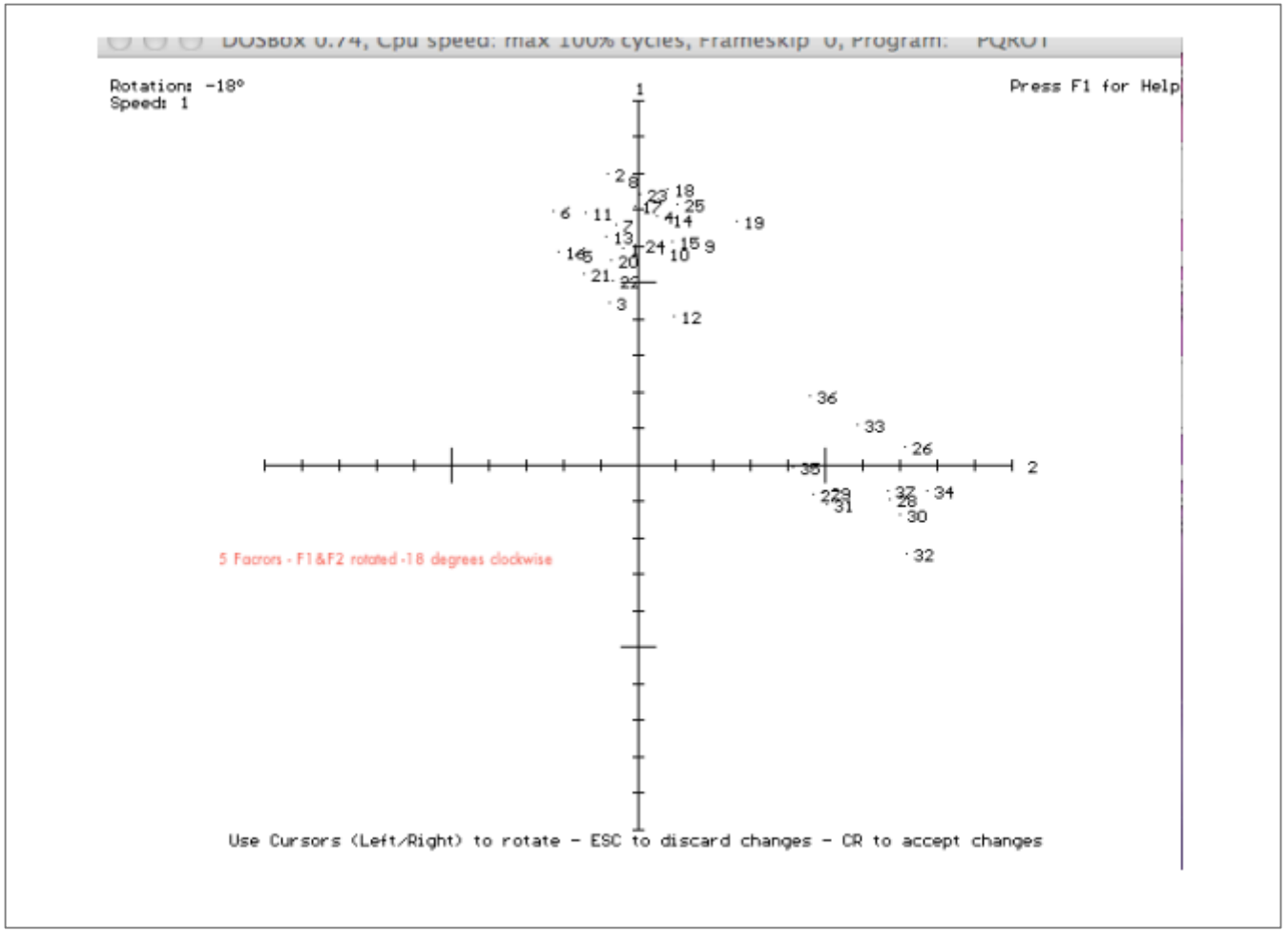
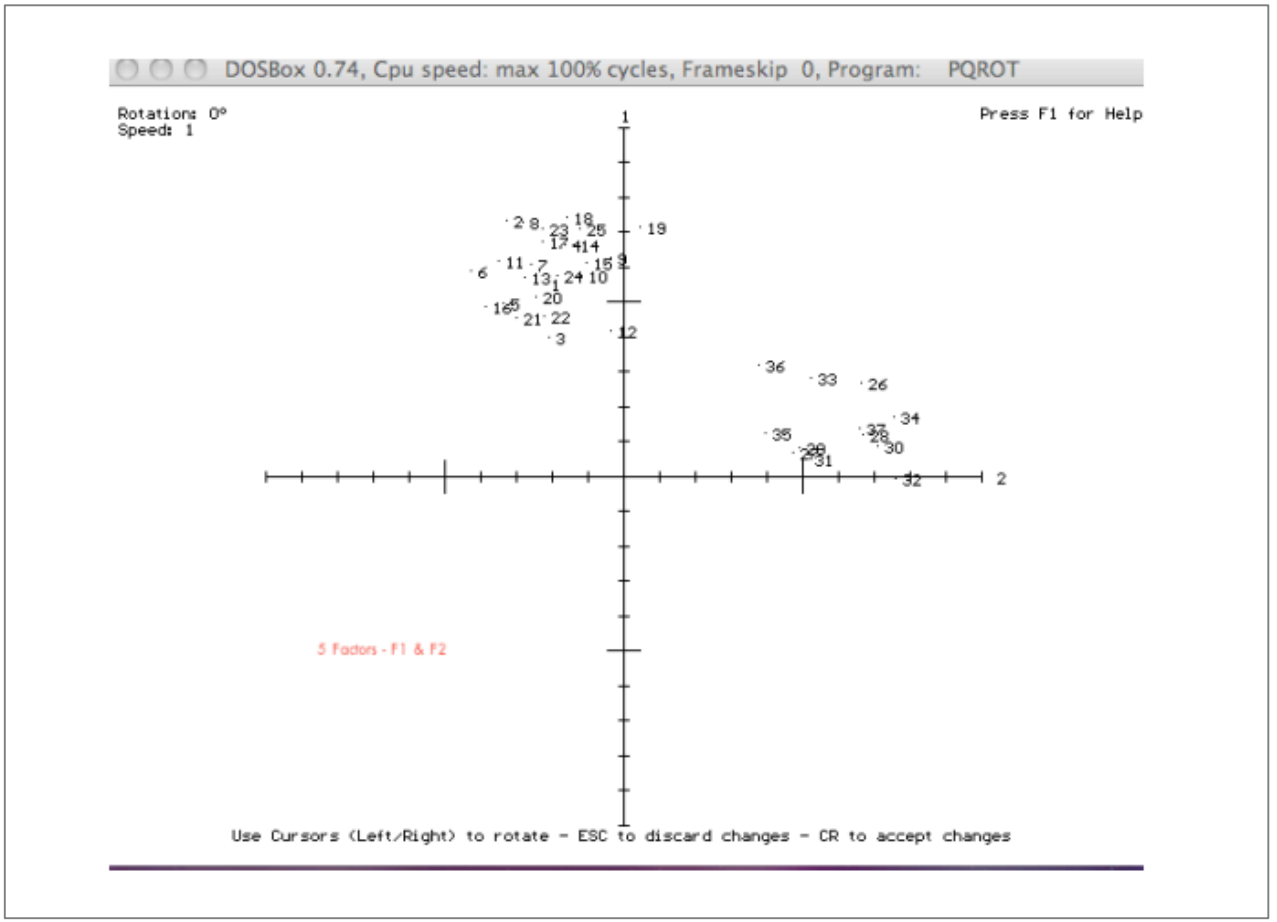

```
psw53m26  -2-4 0-3-4-4-5-5-3-4 0 3-1 3-1 5 2-2 1 1-1-2 3 0 2 1 1 1-1
4-3-3 4 0-1 2 0 0 0 2 0 5 0 5-2 3 2 3 1 0-1-5-2 4 4-1-3 1 2-2
psw23m01   1-2 2-5-1-1-4-2-2-5-3 0 5-3 4-2 4 5 1 0-4-3 1 4-2 0-3 0 0
1-4-4 1 0 0-1 2 0 4 3 5 0 0 3 3 3 2 2-3 3 1-2-5-1 2 1-1 2-1-1
psw47f06   2-1 0 1 0-3-5-1 2-1-1-2 5 3-3 0 3 0-2 0-1-5 4 1 3 1-3-4 0
0-2-5-4 0-2-3-1 0 5 1 2 1-4 0 2 4-1 3 1 2 2-2-4-2 4 5 1 3-3 4
psw49f23   0-2-3-3-2-1-2-4-4-4-3-1 1-1 4 0 2 5 0 1 0-2 2 0 2 3 0-5 0
4-2-3 1-4 0-3 5-1 4 3 2-2 0 1 3 1 0 2-5 4 1-1-1-1 2 3 1 3-5 5
psw22f05   3 2-3-5-3-4-1-4-5 0-1 0-2 0 2 1 4 2 3 0 3-5-3 2 5-4 1-2 1
5 1-1-1 4 3-2 2 0 0 0-1-1 0 1 4 1-1 0-2 5 1-2-3 0-2 2 3 4-3-4
psw36f01  -3-1-1-4-2-1 0-2 0-3-4 0 0-4 1 2 3 5 1-5 1-5 3 3 0-2 2 0 0
3-2-4 0-5 4-3 4 2 2-1 2 0 0 3 2 4-2 1-2 4-1-3-3 1 1 5 5-1 1-1
psw21f03  -1 1 1-2-3-2 1-4-5-4-4-3 2 4 0 2-2 2 0 0-2-5-4-1 5 1-2 0 3
5-3-1 1 0 5-1 2 4 3 2 0 0-1 4-1 1 0 3-2-1 0-5 3-3 4 2-3 1 0 3
psw32f07   0-2 4-3-2-1-5-4-3-4-4 2 2 1 0-2 2 5 1-5-1-3-1 3 5 0-1-5-1
4-2-3-2-4 1-3 0 0 0 0 4 0 2 1 3 2 1 0 3 4 1-2-1-1 3 0 2 3 1 5
psw25f01   5 0 4-1-4 2-3-3-5-1 0 1-1-3 0 1 0 0 1-4-2 0-4 0 2 2 0 1 1
3-3-2-2 0 2-1 3 4-3-4-2-5 3 4 3 2 1 2 1-1 4-5-2-1-2 0 5-1 3 5
psw46m03   0-4 3 5-4-1 1-2-3-2-5 3 1 2 3-3 5 5 0-3 2-1 1-1 4 4 2-2-4
0-3 0-2-3 3-5 2 1-2 0 1 0 0-1-1 1 2 3 0 0 0-5-1 4 4 2-1 1-2-4
psw33f10   4-2-2-3-5-3-1-4-2-4-3 0-1 0-2 3 1 3 5-3 0-4 3 3 2 1 2 1 0
0-5-3-2-2-1 0 4 4 0 0-1 5 1 4 1 0 0 2-1 2 5-5-4 2 2 1-1-1 3 1
```

Appendix 9 PHD2 5 Factors F1 and F2 Rotated



Appendix 10 PHD2 5 Factors F1 and F2 varimax



Appendix 11 Appendices D1 – D14 [Data Output Files]

Appendix D 1

PQMethod2.20 phd2
PAGE 1
Path and Project Name: c:/pqmethod/projects/phd2

Correlation Matrix Between Sorts

Sort	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
1 sw37f15	100	053	028	043	027	036	043	045	046	028	046	042	045	030	038	026	045	047	055	036	037	020	033	034	050	001	*16	*07	*09	*07	002	*15	*02	*07	*17	016	*11
2 sw48f05	053	100	036	047	043	058	067	066	048	046	063	032	046	058	054	047	053	060	050	054	048	037	050	038	050	003	*10	*10	*11	*10	*27	*33	005	*13	*08	025	*11
3 sw54f12	028	036	100	037	029	045	032	036	024	015	033	033	020	042	032	021	033	047	015	007	008	006	039	025	040	*01	*04	*01	001	*03	002	*12	*14	*13	*10	000	*02
4 sw45f09	043	047	037	100	043	050	034	044	046	037	045	025	051	051	047	046	047	053	056	024	041	038	047	033	050	000	007	*01	*08	*06	008	*25	005	002	*08	008	*01
5 sw59f15	027	043	029	043	100	048	046	034	025	032	037	013	062	023	030	040	047	034	031	040	039	035	049	037	045	*17	*27	*31	*03	*23	000	*28	003	*11	003	010	*17
6 sw61f18	036	058	045	050	048	100	055	063	035	024	059	030	051	045	046	049	045	050	035	049	026	031	052	038	044	*14	*02	*22	*16	*22	*18	*33	*06	*20	*15	014	*28
7 sw55f33	043	067	032	034	046	055	100	054	014	025	050	013	052	050	062	053	041	045	041	053	039	016	037	053	033	011	*08	*10	*22	*19	*18	*18	000	*15	006	023	001
8 sw51f11	045	066	036	044	034	063	054	100	040	046	057	033	047	066	037	050	057	058	051	047	034	051	067	047	054	004	*12	*01	002	*03	*23	*23	*01	*07	*01	014	*16
9 sw36m03	046	048	024	046	025	035	014	040	100	048	036	036	035	035	026	019	054	054	048	022	043	044	056	019	061	012	011	010	*07	*06	004	*07	024	020	*03	019	*03
10 sw53m22	028	046	015	037	032	024	025	046	048	100	042	016	020	040	031	035	045	044	047	039	045	042	052	041	046	012	000	*04	*01	*01	*13	*21	027	003	004	006	*10
11 sw55f13	046	063	033	045	037	059	050	057	036	042	100	035	025	049	051	037	042	065	036	054	030	032	049	048	037	*14	*09	*16	*19	*17	*20	*29	000	*08	*01	018	*10
12 sw59f38	042	032	033	025	013	030	013	033	036	016	035	100	016	029	018	016	031	056	027	026	027	010	025	026	025	*05	*04	004	002	008	013	013	018	*02	*01	011	008
13 sw55f03	045	046	020	051	062	051	052	047	035	020	025	016	100	041	031	036	051	035	043	038	028	042	047	045	064	*08	*12	*06	*10	*16	*07	*19	000	*16	*07	018	*08
14 sw27f01	030	058	042	051	023	045	050	066	035	040	049	029	041	100	046	043	047	051	043	027	018	034	045	041	055	020	*12	012	*08	*03	*06	*19	000	004	012	013	003
15 nsw54f30	038	054	032	047	030	046	062	037	026	031	051	018	031	046	100	041	038	051	046	039	036	009	039	047	030	022	002	001	*09	*10	001	*16	008	001	002	007	017
16 nsw62f40	026	047	021	046	040	049	053	050	019	035	037	016	036	043	041	100	033	037	026	041	051	034	045	039	037	*11	*17	*18	*18	*21	*13	*29	*05	*22	*01	001	*12
17 nsw51f25	045	053	033	047	047	045	041	057	054	045	042	031	051	047	038	033	100	057	044	033	038	040	059	048	054	003	001	*13	002	*14	*06	*15	*01	003	*01	010	*03
18 nsw53f31	047	060	047	053	034	050	045	058	054	044	065	056	035	051	051	037	057	100	050	038	044	030	049	038	045	003	001	000	*02	*09	*02	*10	014	007	003	016	004
19 nsw50m15	055	050	015	056	031	035	041	051	048	047	036	027	043	043	046	026	044	050	100	030	048	024	043	042	047	029	003	010	011	008	010	*13	020	017	013	021	009
20 nsw54m13	036	054	007	024	040	049	053	047	022	039	054	026	038	027	039	041	033	038	030	100	037	028	038	044	029	*12	*17	*17	*06	*05	*16	*10	013	*11	004	023	*08
21 nsw57m21	037	048	008	041	039	026	039	034	043	045	030	027	028	018	036	051	038	044	048	037	100	026	035	023	024	003	*20	*26	*10	*10	*08	*29	016	*19	*15	*06	*23

| | | |

Appendix D2

PQMethod2.20 phd2
PAGE 2
Path and Project Name: c:/pqmethod/projects/phd2

Unrotated Factor Matrix

	Factors				
	1	**2**	**3**	**4**	**5**
SORTS					
1 sw37f15	0.5536	-0.2249	-0.3041	0.0492	0.1702
2 sw48f05	0.7354	-0.3262	0.1648	0.0347	0.1807
3 sw54f12	0.3995	-0.2097	-0.0715	-0.0291	-0.2474
4 sw45f09	0.6666	-0.1633	-0.1949	-0.0298	-0.0947
5 sw59f15	0.4961	-0.3374	-0.0709	0.1037	-0.0825
6 sw61f18	0.5919	-0.4295	0.0763	0.0772	-0.0577
7 sw55f33	0.6077	-0.2603	0.2475	0.4330	-0.2017
8 sw51f11	0.7282	-0.2834	0.2363	-0.2159	0.0525
9 sw36m03	0.6256	-0.0379	-0.2740	-0.2035	0.1962
10 sw53m22	0.5749	-0.1190	0.0763	-0.1819	0.2264
11 sw55f13	0.6166	-0.3503	0.2174	0.1479	0.1762
12 sw59f38	0.4186	-0.0376	-0.2436	0.1664	0.1927
13 sw55f03	0.5718	-0.2788	-0.1194	0.0053	-0.2344
14 sw27f01	0.6656	-0.1399	0.1402	-0.2005	-0.1750
15 nsw54f30	0.6119	-0.1041	0.1025	0.2230	-0.1795
16 nsw62f40	0.4900	-0.3862	0.1766	0.0958	-0.1061
17 nsw51f25	0.6732	-0.2279	-0.1146	-0.0807	-0.0239
18 nsw53f31	0.7437	-0.1595	-0.0981	0.0642	0.1260
19 nsw50m15	0.7163	0.0441	-0.0953	-0.0131	0.1036
20 nsw54m13	0.5142	-0.2446	0.2635	0.3729	0.2669
21 nsw57m21	0.4550	-0.2989	-0.0898	0.0210	0.2780
22 nsw33f06	0.4622	-0.2229	0.1201	-0.3083	0.0306
23 nsw38f01	0.7108	-0.2262	0.0352	-0.2853	-0.0931
24 nsw47f20	0.5773	-0.1873	0.1569	0.1043	-0.1798
25 nsw30f04	0.7128	-0.1233	-0.1556	-0.1912	-0.1652
26 psw24f04	0.2697	0.6647	0.1442	-0.1213	-0.1041
27 psw53m26	0.0703	0.4707	0.1020	0.0046	-0.0557
28 psw23m01	0.1198	0.6687	0.0837	-0.2159	-0.0263
29 psw47f06	0.0820	0.4920	0.0383	-0.2481	0.1041
30 psw49f23	0.0894	0.7088	0.0289	-0.0726	0.1414
31 psw22f05	0.0531	0.5143	-0.3372	0.0997	-0.1853
32 psw36f01	-0.0055	0.7587	-0.1009	0.1890	-0.0278
33 psw21f03	0.2860	0.5213	0.0059	0.1434	0.2000
34 psw32f07	0.1736	0.7547	0.0456	-0.1534	0.0789
35 psw25f01	0.1235	0.3959	0.1866	0.0563	-0.1267
36 psw46m03	0.3224	0.3787	0.0774	0.2267	0.1324
37 psw33f10	0.1396	0.6584	0.0839	0.2551	-0.2733
Eigenvalues	9.5202	5.7209	0.9420	1.1911	0.9524
% expl.Var.	26	15	3	3	3

Appendix D3

PQMethod2.20 phd2
PAGE 3
Path and Project Name: c:/pqmethod/projects/phd2

Cumulative Communalities Matrix
Factors 1 Thru ....

	1	2	3	4	5
SORTS					
1 sw37f15	0.3065	0.3571	0.4496	0.4520	0.4809
2 sw48f05	0.5408	0.6472	0.6744	0.6756	0.7082
3 sw54f12	0.1596	0.2035	0.2087	0.2095	0.2707
4 sw45f09	0.4444	0.4711	0.5091	0.5100	0.5189
5 sw59f15	0.2461	0.3600	0.3650	0.3757	0.3825
6 sw61f18	0.3503	0.5348	0.5406	0.5466	0.5499
7 sw55f33	0.3693	0.4370	0.4983	0.6858	0.7264
8 sw51f11	0.5303	0.6106	0.6664	0.7130	0.7158
9 sw36m03	0.3914	0.3929	0.4679	0.5094	0.5478
10 sw53m22	0.3305	0.3447	0.3505	0.3836	0.4348
11 sw55f13	0.3802	0.5029	0.5502	0.5720	0.6031
12 sw59f38	0.1752	0.1766	0.2360	0.2636	0.3008
13 sw55f03	0.3269	0.4047	0.4189	0.4190	0.4739
14 sw27f01	0.4430	0.4626	0.4822	0.5224	0.5531
15 nsw54f30	0.3744	0.3853	0.3958	0.4455	0.4778
16 nsw62f40	0.2401	0.3893	0.4204	0.4296	0.4409
17 nsw51f25	0.4532	0.5051	0.5182	0.5247	0.5253
18 nsw53f31	0.5531	0.5785	0.5881	0.5923	0.6081
19 nsw50m15	0.5131	0.5150	0.5241	0.5243	0.5350
20 nsw54m13	0.2645	0.3243	0.3937	0.5328	0.6040
21 nsw57m21	0.2070	0.2963	0.3044	0.3048	0.3821
22 nsw33f06	0.2136	0.2633	0.2777	0.3728	0.3737
23 nsw38f01	0.5052	0.5564	0.5576	0.6390	0.6477
24 nsw47f20	0.3333	0.3684	0.3930	0.4038	0.4362
25 nsw30f04	0.5081	0.5232	0.5475	0.5840	0.6113
26 psw24f04	0.0727	0.5146	0.5354	0.5501	0.5609
27 psw53m26	0.0049	0.2265	0.2369	0.2369	0.2400
28 psw23m01	0.0144	0.4615	0.4685	0.5151	0.5158
29 psw47f06	0.0067	0.2488	0.2502	0.3118	0.3226
30 psw49f23	0.0080	0.5105	0.5113	0.5166	0.5366
31 psw22f05	0.0028	0.2673	0.3811	0.3910	0.4253
32 psw36f01	0.0000	0.5756	0.5858	0.6215	0.6223
33 psw21f03	0.0818	0.3535	0.3535	0.3741	0.4141
34 psw32f07	0.0301	0.5997	0.6018	0.6254	0.6316
35 psw25f01	0.0153	0.1720	0.2068	0.2100	0.2260
36 psw46m03	0.1039	0.2474	0.2534	0.3048	0.3223
37 psw33f10	0.0195	0.4530	0.4600	0.5251	0.5998
cum% expl.Var.	26	41	44	47	50

Appendix D4

PQMethod2.20 phd2
PAGE 4
Path and Project Name: c:/pqmethod/projects/phd2

Factor Matrix with an X Indicating a Defining Sort

	Loadings	
QSORT	**F1**	**F2**
1 sw37f15	0.5536 X	-0.2249
2 sw48f05	0.7354	-0.3262
3 sw54f12	0.3995 X	-0.2097
4 sw45f09	0.6666 X	-0.1633
5 sw59f15	0.4961	-0.3374
6 sw61f18	0.5919	-0.4295
7 sw55f33	0.6077	-0.2603
8 sw51f11	0.7282 X	-0.2834
9 sw36m03	0.6256 X	-0.0379
10 sw53m22	0.5749 X	-0.1190
11 sw55f13	0.6166	-0.3503
12 sw59f38	0.4186 X	-0.0376
13 sw55f03	0.5718 X	-0.2788
14 sw27f01	0.6656 X	-0.1399
15 nsw54f30	0.6119 X	-0.1041
16 nsw62f40	0.4900	-0.3862
17 nsw51f25	0.6732 X	-0.2279
18 nsw53f31	0.7437 X	-0.1595
19 nsw50m15	0.7163 X	0.0441
20 nsw54m13	0.5142	-0.2446
21 nsw57m21	0.4550 X	-0.2989
22 nsw33f06	0.4622 X	-0.2229
23 nsw38f01	0.7108 X	-0.2262
24 nsw47f20	0.5773 X	-0.1873
25 nsw30f04	0.7128 X	-0.1233
26 psw24f04	0.2697	0.6647 X
27 psw53m26	0.0703	0.4707 X
28 psw23m01	0.1198	0.6687 X
29 psw47f06	0.0820	0.4920 X
30 psw49f23	0.0894	0.7088 X
31 psw22f05	0.0531	0.5143
32 psw36f01	-0.0055	0.7587 X
33 psw21f03	0.2860	0.5213 X
34 psw32f07	0.1736	0.7547 X
35 psw25f01	0.1235	0.3959 X
36 psw46m03	0.3224	0.3787 X
37 psw33f10	0.1396	0.6584 X
% expl.Var.	26	15

Appendix D5

PQMethod2.20 phd2
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Path and Project Name: c:/pqmethod/projects/phd2 Jul 4 13

Free Distribution Data Results

QSORT	MEAN	ST.DEV.
1 sw37f15	0.000	2.700
2 sw48f05	0.000	2.700
3 sw54f12	0.000	2.700
4 sw45f09	0.000	2.700
5 sw59f15	0.000	2.700
6 sw61f18	0.000	2.700
7 sw55f33	0.000	2.700
8 sw51f11	0.000	2.700
9 sw36m03	0.000	2.700
10 sw53m22	0.000	2.700
11 sw55f13	0.000	2.700
12 sw59f38	0.000	2.700
13 sw55f03	0.000	2.700
14 sw27f01	0.000	2.700
15 nsw54f30	0.000	2.700
16 nsw62f40	0.000	2.700
17 nsw51f25	0.000	2.700
18 nsw53f31	0.000	2.700
19 nsw50m15	0.000	2.700
20 nsw54m13	0.000	2.700
21 nsw57m21	0.000	2.700
22 nsw33f06	0.000	2.700
23 nsw38f01	0.000	2.700
24 nsw47f20	0.000	2.700
25 nsw30f04	0.000	2.700
26 psw24f04	0.000	2.700
27 psw53m26	0.000	2.700
28 psw23m01	0.000	2.700
29 psw47f06	0.000	2.700
30 psw49f23	0.000	2.700
31 psw22f05	0.000	2.700
32 psw36f01	0.000	2.700
33 psw21f03	0.000	2.700
34 psw32f07	0.000	2.700
35 psw25f01	0.000	2.700
36 psw46m03	0.000	2.700
37 psw33f10	0.000	2.700

Appendix D6

PQMethod2.20 phd2
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Path and Project Name: c:/pqmethod/projects/phd2
Factor Scores with Corresponding Ranks

			Factors			
No.	**Statement**	**No.**	**1**	**Rank**	**2**	**Rank**
1	a\	1	0.85	13	0.16	32
2	b	2	-0.14	37	-0.89	45
3	c	3	1.19	8	0.23	30
4	d	4	0.91	11	-1.41	53
5	e	5	-1.78	59	-1.32	51
6	f	6	0.03	33	-0.69	43
7	g	7	-0.30	40	-1.39	52
8	h	8	1.33	5	-1.54	55
9	i	9	-0.60	44	-1.08	47
10	j	10	1.32	6	-1.72	59
11	k	11	-0.81	47	-1.66	57
12	l	12	-1.74	57	0.10	33
13	m	13	0.18	28	0.75	16
14	n	14	0.68	19	-0.20	39
15	o	15	-0.40	42	0.46	24
16	p	16	-1.65	55	0.22	31
17	q	17	-0.95	48	1.11	8
18	r	18	-1.26	51	1.80	1
19	s	19	0.00	35	0.70	19
20	t	20	0.19	27	-1.25	49
21	u	21	-1.08	49	-0.40	41
22	v	22	0.07	31	-1.72	60
23	w	23	0.63	21	0.46	23
24	x	24	0.74	16	0.79	14
25	y	25	0.72	17	1.19	5
26	z	26	-0.62	45	0.30	27
27	a\a\	27	-1.49	52	0.05	35
28	bb	28	-1.63	54	-1.06	46
29	cc	29	0.04	32	0.10	34
30	dd	30	0.58	22	1.50	2
31	ee	31	0.78	14	-1.43	54
32	ff	32	0.75	15	-1.68	58
33	gg	33	0.14	30	-0.32	40
34	hh	34	-0.16	39	-1.17	48
35	ii	35	1.46	2	0.59	21
36	jj	36	-0.43	43	-0.77	44
37	kk	37	0.01	34	1.18	6
38	ll	38	0.16	29	0.44	25
39	mm	39	-1.76	58	0.74	17
40	nn	40	1.27	7	0.57	22
41	oo	41	0.36	26	1.05	10
42	pp	42	-0.13	36	0.03	36
43	qq	43	0.85	12	0.24	29

Appendix D6 [continued]

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Factor Scores with Corresponding Ranks

No.	Statement		Factors 1	Rank	2	Rank
44	rr	44	0.49	23	1.39	4
45	ss	45	1.38	3	0.90	13
46	tt	46	-1.98	60	1.13	7
47	uu	47	1.78	1	0.28	28
48	vv	48	1.01	10	0.70	18
49	ww	49	-0.73	46	-0.68	42
50	xx	50	-1.56	53	1.41	3
51	yy	51	1.12	9	0.78	15
52	zz	52	0.64	20	-1.59	56
53	a\a\a\	53	-0.15	38	-1.30	50
54	bbb	54	0.72	18	0.00	37
55	ccc	55	1.33	4	1.08	9
56	ddd	56	0.45	24	1.00	12
57	eee	57	-1.69	56	0.41	26
58	fff	58	-0.37	41	0.62	20
59	ggg	59	0.44	25	-0.18	38
60	hhh	60	-1.16	50	1.00	11

Correlations between Factor Scores

	1	2
1	1.0000	-0.0373
2	-0.0373	1.0000

Appendix D7

PQMethod2.20 phd2

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Path and Project Name: c:/pqmethod/projects/phd2

Factor Scores -- For Factor 1

No.	Statement	No.	Z-SCORES
47	uu	47	1.776
35	ii	35	1.456
45	ss	45	1.383
55	ccc	55	1.333
8	h	8	1.330
10	j	10	1.317
40	nn	40	1.266
3	c	3	1.191
51	yy	51	1.121
48	vv	48	1.014
4	d	4	0.914
43	qq	43	0.853
1	a\	1	0.845
31	ee	31	0.779
32	ff	32	0.749
24	x	24	0.737
25	y	25	0.719
54	bbb	54	0.717
14	n	14	0.679
52	zz	52	0.639
23	w	23	0.625
30	dd	30	0.580
44	rr	44	0.494
56	ddd	56	0.455
59	ggg	59	0.438
41	oo	41	0.355
20	t	20	0.186
13	m	13	0.183
38	ll	38	0.158
33	gg	33	0.137
22	v	22	0.069
29	cc	29	0.044
6	f	6	0.025
37	kk	37	0.011
19	s	19	-0.002
42	pp	42	-0.134
2	b	2	-0.136
53	a\a\a\	53	-0.148
34	hh	34	-0.161
7	g	7	-0.297
58	fff	58	-0.370
15	o	15	-0.401
36	jj	36	-0.434
9	i	9	-0.604
26	z	26	-0.617
49	ww	49	-0.728
11	k	11	-0.808
17	q	17	-0.952
21	u	21	-1.077
60	hhh	60	-1.157
18	r	18	-1.259
27	a\a\	27	-1.491
50	xx	50	-1.558
28	bb	28	-1.633
16	p	16	-1.655
57	eee	57	-1.692
12	l	12	-1.745
39	mm	39	-1.757
5	e	5	-1.785
46	tt	46	-1.978

Appendix D8

PQMethod2.20 phd2
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Path and Project Name: c:/pqmethod/projects/phd2

Factor Scores -- For Factor 2

No.	Statement	No.	Z-SCORES
18	r	18	1.805
30	dd	30	1.504
50	xx	50	1.414
44	rr	44	1.386
25	y	25	1.185
37	kk	37	1.180
46	tt	46	1.133
17	q	17	1.107
55	ccc	55	1.076
41	oo	41	1.046
60	hhh	60	1.002
56	ddd	56	1.001
45	ss	45	0.895
24	x	24	0.795
51	yy	51	0.780
13	m	13	0.748
39	mm	39	0.738
48	vv	48	0.699
19	s	19	0.696
58	fff	58	0.619
35	ii	35	0.593
40	nn	40	0.566
23	w	23	0.464
15	o	15	0.459
38	ll	38	0.442
57	eee	57	0.410
26	z	26	0.301
47	uu	47	0.280
43	qq	43	0.237
3	c	3	0.229
16	p	16	0.218
1	a\	1	0.157
12	l	12	0.104
29	cc	29	0.095
27	a\a\	27	0.047
42	pp	42	0.033
54	bbb	54	0.000
59	ggg	59	-0.180
14	n	14	-0.200
33	gg	33	-0.316
21	u	21	-0.402
49	ww	49	-0.677
6	f	6	-0.689
36	jj	36	-0.768
2	b	2	-0.893
28	bb	28	-1.064
9	i	9	-1.081
34	hh	34	-1.166
20	t	20	-1.250
53	a\a\a\	53	-1.301
5	e	5	-1.324
7	g	7	-1.386
4	d	4	-1.412
31	ee	31	-1.426
8	h	8	-1.538
52	zz	52	-1.592
11	k	11	-1.660
32	ff	32	-1.681
10	j	10	-1.716
22	v	22	-1.722

Appendix D9

PQMethod2.20 phd2

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Path and Project Name: c:/pqmethod/projects/phd2

Descending Array of Differences Between Factors 1 and 2

No.	Statement	No.	Type 1	Type 2	Difference
10	j	10	1.317	-1.716	3.033
8	h	8	1.330	-1.538	2.867
32	ff	32	0.749	-1.681	2.430
4	d	4	0.914	-1.412	2.326
52	zz	52	0.639	-1.592	2.231
31	ee	31	0.779	-1.426	2.205
22	v	22	0.069	-1.722	1.791
47	uu	47	1.776	0.280	1.496
20	t	20	0.186	-1.250	1.436
53	a\a\a\	53	-0.148	-1.301	1.152
7	g	7	-0.297	-1.386	1.089
34	hh	34	-0.161	-1.166	1.005
3	c	3	1.191	0.229	0.962
14	n	14	0.679	-0.200	0.879
35	ii	35	1.456	0.593	0.863
11	k	11	-0.808	-1.660	0.852
2	b	2	-0.136	-0.893	0.757
54	bbb	54	0.717	0.000	0.717
6	f	6	0.025	-0.689	0.715
40	nn	40	1.266	0.566	0.700
1	a\	1	0.845	0.157	0.688
59	ggg	59	0.438	-0.180	0.618
43	qq	43	0.853	0.237	0.616
45	ss	45	1.383	0.895	0.488
9	i	9	-0.604	-1.081	0.477
33	gg	33	0.137	-0.316	0.453
51	yy	51	1.121	0.780	0.341
36	jj	36	-0.434	-0.768	0.334
48	vv	48	1.014	0.699	0.315
55	ccc	55	1.333	1.076	0.257
23	w	23	0.625	0.464	0.161
49	ww	49	-0.728	-0.677	-0.051
29	cc	29	0.044	0.095	-0.051
24	x	24	0.737	0.795	-0.057
42	pp	42	-0.134	0.033	-0.167
38	ll	38	0.158	0.442	-0.284
5	e	5	-1.785	-1.324	-0.461
25	y	25	0.719	1.185	-0.466
56	ddd	56	0.455	1.001	-0.547
13	m	13	0.183	0.748	-0.566
28	bb	28	-1.633	-1.064	-0.569
21	u	21	-1.077	-0.402	-0.675
41	oo	41	0.355	1.046	-0.690
19	s	19	-0.002	0.696	-0.698
15	o	15	-0.401	0.459	-0.860
44	rr	44	0.494	1.386	-0.893
26	z	26	-0.617	0.301	-0.918
30	dd	30	0.580	1.504	-0.924
58	fff	58	-0.370	0.619	-0.989
37	kk	37	0.011	1.180	-1.168
27	a\a\	27	-1.491	0.047	-1.537
12	l	12	-1.745	0.104	-1.848
16	p	16	-1.655	0.218	-1.873
17	q	17	-0.952	1.107	-2.059
57	eee	57	-1.692	0.410	-2.102
60	hhh	60	-1.157	1.002	-2.158
39	mm	39	-1.757	0.738	-2.495
50	xx	50	-1.558	1.414	-2.972
18	r	18	-1.259	1.805	-3.064
46	tt	46	-1.978	1.133	-3.111

Appendix D10

PQMethod2.20 phd2

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Path and Project Name: c:/pqmethod/projects/phd2

Exact Factor Scores (ß la SPSS) in Z-Score and T-Score units

		Factors			
No.	**Statement**	**No.**	**1**		**2**	
1	a\	1	0.00	50	0.00	50
2	b	2	0.00	50	0.00	50
3	c	3	0.00	50	0.00	50
4	d	4	0.00	50	0.00	50
5	e	5	0.00	50	0.00	50
6	f	6	0.00	50	0.00	50
7	g	7	0.00	50	0.00	50
8	h	8	0.00	50	0.00	50
9	i	9	0.00	50	0.00	50
10	j	10	0.00	50	0.00	50
11	k	11	0.00	50	0.00	50
12	l	12	0.00	50	0.00	50
13	m	13	0.00	50	0.00	50
14	n	14	0.00	50	0.00	50
15	o	15	0.00	50	0.00	50
16	p	16	0.00	50	0.00	50
17	q	17	0.00	50	0.00	50
18	r	18	0.00	50	0.00	50
19	s	19	0.00	50	0.00	50
20	t	20	0.00	50	0.00	50
21	u	21	0.00	50	0.00	50
22	v	22	0.00	50	0.00	50
23	w	23	0.00	50	0.00	50
24	x	24	0.00	50	0.00	50
25	y	25	0.00	50	0.00	50
26	z	26	0.00	50	0.00	50
27	a\a\	27	0.00	50	0.00	50
28	bb	28	0.00	50	0.00	50
29	cc	29	0.00	50	0.00	50
30	dd	30	0.00	50	0.00	50
31	ee	31	0.00	50	0.00	50
32	ff	32	0.00	50	0.00	50
33	gg	33	0.00	50	0.00	50
34	hh	34	0.00	50	0.00	50
35	ii	35	0.00	50	0.00	50
36	jj	36	0.00	50	0.00	50
37	kk	37	0.00	50	0.00	50
38	ll	38	0.00	50	0.00	50
39	mm	39	0.00	50	0.00	50
40	nn	40	0.00	50	0.00	50
41	oo	41	0.00	50	0.00	50
42	pp	42	0.00	50	0.00	50
43	qq	43	0.00	50	0.00	50
44	rr	44	0.00	50	0.00	50
45	ss	45	0.00	50	0.00	50
46	tt	46	0.00	50	0.00	50
47	uu	47	0.00	50	0.00	50
48	vv	48	0.00	50	0.00	50
49	ww	49	0.00	50	0.00	50
50	xx	50	0.00	50	0.00	50
51	yy	51	0.00	50	0.00	50
52	zz	52	0.00	50	0.00	50
53	a\a\a\	53	0.00	50	0.00	50
54	bbb	54	0.00	50	0.00	50
55	ccc	55	0.00	50	0.00	50
56	ddd	56	0.00	50	0.00	50
57	eee	57	0.00	50	0.00	50
58	fff	58	0.00	50	0.00	50
59	ggg	59	0.00	50	0.00	50
60	hhh	60	0.00	50	0.00	50

Appendix D11

PQMethod2.20 phd2
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Path and Project Name: c:/pqmethod/projects/phd2
Factor Q-Sort Values for Each Statement

		Factor Arrays		
No.	**Statement**	**No.**	**1**	**2**
1	a	1	2	0
2	b	2	-1	-2
3	c	3	3	0
4	d	4	3	-3
5	e	5	-5	-3
6	f	6	0	-2
7	g	7	-1	-3
8	h	8	4	-4
9	i	9	-2	-2
10	j	10	4	-5
11	k	11	-2	-4
12	l	12	-4	0
13	m	13	0	2
14	n	14	1	-1
15	o	15	-1	1
16	p	16	-4	0
17	q	17	-2	3
18	r	18	-3	5
19	s	19	0	1
20	t	20	0	-3
21	u	21	-3	-1
22	v	22	0	-5
23	w	23	1	1
24	x	24	2	2
25	y	25	2	4
26	z	26	-2	0
27	a\a\	27	-3	0
28	bb	28	-4	-2
29	cc	29	0	0
30	dd	30	1	5
31	ee	31	2	-4
32	ff	32	2	-5
33	gg	33	0	-1
34	hh	34	-1	-2
35	ii	35	5	1
36	jj	36	-2	-2
37	kk	37	0	4
38	ll	38	0	1
39	mm	39	-5	2
40	nn	40	4	1
41	oo	41	0	3
42	pp	42	-1	-1
43	qq	43	3	0
44	rr	44	1	4
45	ss	45	5	2
46	tt	46	-5	4
47	uu	47	5	0
48	vv	48	3	2
49	ww	49	-2	-1
50	xx	50	-3	5
51	yy	51	3	2
52	zz	52	1	-4
53	a\a\a\	53	-1	-3
54	bbb	54	2	-1
55	ccc	55	4	3
56	ddd	56	1	3
57	eee	57	-4	0
58	fff	58	-1	1
59	ggg	59	1	-1
60	hhh	60	-3	3

Variance = 7.167 St. Dev. = 2.677

Appendix D12

PQMethod2.20 phd2
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Path and Project Name: c:/pqmethod/projects/phd2
Factor Q-Sort Values for Statements sorted by Consensus vs. Disagreement (Variance across Factor Z-Scores)

		Factor Arrays		
No.	**Statement**	**No.**	**1**	**2**
49	ww	49	-2	-1
29	cc	29	0	0
24	x	24	2	2
23	w	23	1	1
42	pp	42	-1	-1
55	ccc	55	4	3
38	ll	38	0	1
48	vv	48	3	2
36	jj	36	-2	-2
51	yy	51	3	2
33	gg	33	0	-1
5	e	5	-5	-3
25	y	25	2	4
9	i	9	-2	-2
45	ss	45	5	2
56	ddd	56	1	3
13	m	13	0	2
28	bb	28	-4	-2
43	qq	43	3	0
59	ggg	59	1	-1
21	u	21	-3	-1
1	a\	1	2	0
41	oo	41	0	3
19	s	19	0	1
40	nn	40	4	1
6	f	6	0	-2
54	bbb	54	2	-1
2	b	2	-1	-2
11	k	11	-2	-4
15	o	15	-1	1
35	ii	35	5	1
14	n	14	1	-1
44	rr	44	1	4
26	z	26	-2	0
30	dd	30	1	5
3	c	3	3	0
58	fff	58	-1	1
34	hh	34	-1	-2
7	g	7	-1	-3
53	a\a\a\	53	-1	-3
37	kk	37	0	4
20	t	20	0	-3
47	uu	47	5	0
27	a\a\	27	-3	0

Appendix D12 [continued]

PQMethod2.20 phd2
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Path and Project Name: c:/pqmethod/projects/phd2

		Factor Arrays	
No.	**Statement**	**1**	**2**
22	v	0	-5
12	l	-4	0
16	p	-4	0
17	q	-2	3
57	eee	-4	0
60	hhh	-3	3
31	ee	2	-4
52	zz	1	-4
4	d	3	-3
32	ff	2	-5
39	mm	-5	2
8	h	4	-4
50	xx	-3	5
10	j	4	-5
18	r	-3	5
46	tt	-5	4

Factor Characteristics

	Factors	
	1	**2**
No. of Defining Variables	18	11
Average Rel. Coef.	0.800	0.800
Composite Reliability	0.986	0.978
S.E. of Factor Z-Scores	0.117	0.149

Standard Errors for Differences in Factor Z-Scores

(Diagonal Entries Are S.E. Within Factors)

Factors	**1**	**2**
1	0.166	0.190
2	0.190	0.211

Appendix D13

PQMethod2.20 phd2
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Path and Project Name: c:/pqmethod/projects/phd2

Distinguishing Statements for Factor 1/Factor 2
(P < .05 ; Asterisk (*) Indicates Significance at P < .01)
Both the Factor Q-Sort Value (Q-SV) and the Z-Score (Z-SCR) are Shown.

		Factors			
		1		2	
No. Statement	No.	Q-SV	Z-SCR	Q-SV	Z-SCR
47 uu	47	5	1.78*	0	0.28
35 ii	35	5	1.46*	1	0.59
45 ss	45	5	1.38	2	0.90
8 h	8	4	1.33*	-4	-1.54
10 j	10	4	1.32*	-5	-1.72
40 nn	40	4	1.27*	1	0.57
3 c	3	3	1.19*	0	0.23
4 d	4	3	0.91*	-3	-1.41
43 qq	43	3	0.85*	0	0.24
1 a\	1	2	0.85*	0	0.16
31 ee	31	2	0.78*	-4	-1.43
32 ff	32	2	0.75*	-5	-1.68
25 y	25	2	0.72	4	1.19
54 bbb	54	2	0.72*	-1	0.00
14 n	14	1	0.68*	-1	-0.20
52 zz	52	1	0.64*	-4	-1.59
30 dd	30	1	0.58*	5	1.50
44 rr	44	1	0.49*	4	1.39
56 ddd	56	1	0.45*	3	1.00
59 ggg	59	1	0.44*	1	-0.18
41 oo	41	0	0.36*	3	1.05
20 t	20	0	0.19*	-3	-1.25
13 m	13	0	0.18*	2	0.75
33 gg	33	0	0.14	-1	-0.32
22 v	22	0	0.07*	-5	-1.72
6 f	6	0	0.03*	-2	-0.69
37 kk	37	0	0.01*	4	1.18
19 s	19	0	0.00*	1	0.70
2 b	2	-1	-0.14*	-2	-0.89
53 a\a\a\	53	-1	-0.15*	-3	-1.30
34 hh	34	-1	-0.16*	-2	-1.17
7 g	7	-1	-0.30*	-3	-1.39
58 fff	58	-1	-0.37*	1	0.62
15 o	15	-1	-0.40*	1	0.46
9 i	9	-2	-0.60	-2	-1.08
26 z	26	-2	-0.62*	0	0.30
11 k	11	-2	-0.81*	-4	-1.66
17 q	17	-2	-0.95*	3	1.11
21 u	21	-3	-1.08*	-1	-0.40
60 hhh	60	-3	-1.16*	3	1.00
18 r	18	-3	-1.26*	5	1.80
27 a\a\	27	-3	-1.49*	0	0.05
50 xx	50	-3	-1.56*	5	1.41
28 bb	28	-4	-1.63*	-2	-1.06
16 p	16	-4	-1.65*	0	0.22
57 eee	57	-4	-1.69*	0	0.41
12 l	12	-4	-1.74*	0	0.10
39 mm	39	-5	1.76*	2	0.74
5 e	5	-5	-1.78 -	3	-1.32
46 tt	46	-5	-1.98*	4	1.13

Appendix D14

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Consensus Statements -- Those That Do Not Distinguish Between ANY Pair of Factors.

All Listed Statements are Non-Significant at P>.01, and Those Flagged With an * are also Non-Significant at P>.05.

		Factors			
		1		2	
No. Statement	No.	Q-SV	Z-SCR	Q-SV Z-	SCR
5 e	5	-5	-1.78	-3	-1.32
9 i	9	-2	-0.60	-2	-1.08
23* w	23	1	0.63	1	0.46
24* x	24	2	0.74	2	0.79
25 y	25	2	0.72	4	1.19
29* cc	29	0	0.04	0	0.10
33 gg	33	0	0.14	-1	-0.32
36* jj	36	-2	-0.43	-2	-0.77
38* ll	38	0	0.16	1	0.44
42* pp	42	-1	-0.13	-1	0.03
45 ss	45	5	1.38	2	0.90
48* vv	48	3	1.01	2	0.70
49* ww	49	-2	-0.73	-1	-0.68
51* yy	51	3	1.12	2	0.78
55* ccc	55	4	1.33	3	1.08

QANALYZE was completed at 09:55:46

Appendix 12 Original PQMethod Output Files

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Correlation Matrix Between Sorts

SORTS		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	sw37f15	100	53	28	43	27	36	43	45	46	28	46	42	45	30	38	26	45	47	55	36	37	20	33	34	50	1	-16	-7	-9	-7
2	sw48f05	53	100	36	47	43	58	67	66	48	46	63	32	46	58	54	47	53	60	50	54	48	37	50	38	50	3	-10	-10	-11	-10
3	sw54f12	28	36	100	37	29	45	32	36	24	15	33	33	20	42	32	21	33	47	15	7	8	6	39	25	40	-1	-4	-1	1	-3
4	sw45f09	43	47	37	100	43	50	34	44	46	37	45	25	51	51	47	46	47	53	56	24	41	38	47	33	50	0	7	-1	-8	-6
5	sw59f15	27	43	29	43	100	48	46	34	25	32	37	13	62	23	30	40	47	34	31	40	39	35	49	37	45	-17	-27	-31	-3	-23
6	sw61f18	36	58	45	50	48	100	55	63	35	24	59	30	51	45	46	49	45	50	35	49	26	31	52	38	44	-14	-2	-22	-16	-22
7	sw55f33	43	67	32	34	46	55	100	54	14	25	50	13	52	50	62	53	41	45	41	53	39	16	37	53	33	11	-8	-10	-22	-19
8	sw51f11	45	66	36	44	34	63	54	100	40	46	57	33	47	66	37	50	57	58	51	47	34	51	67	47	54	4	-12	-1	2	-3
9	sw36m03	46	48	24	46	25	35	14	40	100	48	36	36	35	35	26	19	54	54	48	22	43	44	56	19	61	12	11	10	-7	-6
10	sw53m22	28	46	15	37	32	24	25	46	48	100	42	16	20	40	31	35	45	44	47	39	45	42	52	41	46	12	0	-4	-1	-1
11	sw55f13	46	63	33	45	37	59	50	57	36	42	100	35	25	49	51	37	42	65	36	54	30	32	49	48	37	-14	-9	-16	-19	-17
12	sw59f38	42	32	33	25	13	30	13	33	36	16	35	100	16	29	18	16	31	56	27	26	27	10	25	26	25	-5	-4	4	2	8
13	sw55f03	45	46	20	51	62	51	52	47	35	20	25	16	100	41	31	36	51	35	43	38	28	42	47	45	64	-8	-12	-6	-10	-16
14	sw27f01	30	58	42	51	23	45	50	66	35	40	49	29	41	100	46	43	47	51	43	27	18	34	45	41	55	20	-12	12	-8	-3
15	nsw54f30	38	54	32	47	30	46	62	37	26	31	51	18	31	46	100	41	38	51	46	39	36	9	39	47	30	22	2	1	-9	-10
16	nsw62f40	26	47	21	46	40	49	53	50	19	35	37	16	36	43	41	100	33	37	26	41	51	34	45	39	37	-11	-17	-18	-18	-21
17	nsw51f25	45	53	33	47	47	45	41	57	54	45	42	31	51	47	38	33	100	57	44	33	38	40	59	48	54	3	1	-13	2	-14
18	nsw53f31	47	60	47	53	34	50	45	58	54	44	65	56	35	51	51	37	57	100	50	38	44	30	49	38	45	3	1	0	-2	-9
19	nsw50m15	55	50	15	56	31	35	41	51	48	47	36	27	43	43	46	26	44	50	100	30	48	24	43	42	47	29	3	10	11	8
20	nsw54m13	36	54	7	24	40	49	53	47	22	39	54	26	38	27	39	41	33	38	30	100	37	28	38	44	29	-12	-17	-17	-6	-5
21	nsw57m21	37	48	8	41	39	26	39	34	43	45	30	27	28	18	36	51	38	44	48	37	100	26	35	23	24	3	-20	-26	-10	-10
22	nsw33f06	20	37	6	38	35	31	16	51	44	42	32	10	42	34	9	34	40	30	24	28	26	100	55	41	40	-1	-1	-6	8	-11
23	nsw38f01	33	50	39	47	49	52	37	67	56	52	49	25	47	45	39	45	59	49	43	38	35	55	100	45	67	9	-7	-4	7	-14
24	nsw47f20	34	38	25	33	37	38	53	47	19	41	48	26	45	41	47	39	48	38	42	44	23	41	45	100	42	8	2	-7	-5	-10
25	nsw30f04	50	50	40	50	45	44	33	54	61	46	37	25	64	55	30	37	54	45	47	29	24	40	67	42	100	6	-2	7	-5	0
26	psw24f04	1	3	-1	0	-17	-14	11	4	12	12	-14	-5	-8	20	22	-11	3	3	29	-12	3	-1	9	8	6	100	30	53	36	56
27	psw53m26	-16	-10	-4	7	-27	-2	-8	-12	11	0	-9	-4	-12	-12	2	-17	1	1	3	-17	-20	-1	-7	2	-2	30	100	35	22	23
28	psw23m01	-7	-10	-1	-1	-31	-22	-10	-1	10	-4	-16	4	-6	12	1	-18	-13	0	10	-17	-26	-6	-4	-7	7	53	35	100	47	63
29	psw47f06	-9	-11	1	-8	-3	-16	-22	2	-7	-1	-19	2	-10	-8	-9	-18	2	-2	11	-6	-10	8	7	-5	-5	36	22	47	100	47
30	psw49f23	-7	-10	-3	-6	-23	-22	-19	-3	-6	-1	-17	8	-16	-3	-10	-21	-14	-9	8	-5	-10	-11	-14	-10	0	56	23	63	47	100
31	psw22f05	2	-27	2	8	0	-18	-18	-23	4	-13	-20	13	-7	-6	1	-13	-6	-2	10	-16	-8	-19	-14	-10	6	45	20	33	19	44
32	psw36f01	-15	-33	-12	-25	-28	-33	-18	-23	-7	-21	-29	13	-19	-19	-16	-29	-15	-10	-13	-10	-29	-29	-19	-8	-15	41	27	55	30	55
33	psw21f03	-2	5	-14	5	3	-6	0	-1	24	27	0	18	0	0	8	-5	-1	14	20	13	16	-2	7	1	17	34	39	33	28	46
34	psw32f07	-7	-13	-13	2	-11	-20	-15	-7	20	3	-8	-2	-16	4	1	-22	3	7	17	-11	-19	-5	2	-17	2	59	30	56	49	58
35	psw25f01	-17	-8	-10	-8	3	-15	6	-1	-3	4	-1	-1	-7	12	2	-1	-1	3	13	4	-15	0	13	8	1	38	11	19	3	19
36	psw46m03	16	25	0	8	10	14	23	14	19	6	18	11	18	13	7	1	10	16	21	23	-6	3	0	4	14	22	28	27	21	36
37	psw33f10	-11	-11	-2	-1	-17	-28	1	-16	-3	-10	-10	8	-8	3	17	-12	-3	4	9	-8	-23	-14	-5	10	5	46	57	44	30	38

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Correlation Matrix Between Sorts

	SORTS	31	32	33	34	35	36	37
1	sw37f15	2	-15	-2	-7	-17	16	-11
2	sw48f05	-27	-33	5	-13	-8	25	-11
3	sw54f12	2	-12	-14	-13	-10	0	-2
4	sw45f09	8	-25	5	2	-8	8	-1
5	sw59f15	0	-28	3	-11	3	10	-17
6	sw61f18	-18	-33	-6	-20	-15	14	-28
7	sw55f33	-18	-18	0	-15	6	23	1
8	sw51f11	-23	-23	-1	-7	-1	14	-16
9	sw36m03	4	-7	24	20	-3	19	-3
10	sw53m22	-13	-21	27	3	4	6	-10
11	sw55f13	-20	-29	0	-8	-1	18	-10
12	sw59f38	13	13	18	-2	-1	11	8
13	sw55f03	-7	-19	0	-16	-7	18	-8
14	sw27f01	-6	-19	0	4	12	13	3
15	nsw54f30	1	-16	8	1	2	7	17
16	nsw62f40	-13	-29	-5	-22	-1	1	-12
17	nsw51f25	-6	-15	-1	3	-1	10	-3
18	nsw53f31	-2	-10	14	7	3	16	4
19	nsw50m15	10	-13	20	17	13	21	9
20	nsw54m13	-16	-10	13	-11	4	23	-8
21	nsw57m21	-8	-29	16	-19	-15	-6	-23
22	nsw33f06	-19	-29	-2	-5	0	3	-14
23	nsw38f01	-14	-19	7	2	13	0	-5
24	nsw47f20	-10	-8	1	-17	8	4	10
25	nsw30f04	6	-15	17	2	1	14	5
26	psw24f04	45	41	34	59	38	22	46
27	psw53m26	20	27	39	30	11	28	57
28	psw23m01	33	55	33	56	19	27	44
29	psw47f06	19	30	28	49	3	21	30
30	psw49f23	44	55	46	58	19	36	38
31	psw22f05	100	45	31	36	27	18	36
32	psw36f01	45	100	30	52	29	36	55
33	psw21f03	31	30	100	42	32	27	39
34	psw32f07	36	52	42	100	44	44	44
35	psw25f01	27	29	32	44	100	17	42
36	psw46m03	18	36	27	44	17	100	34
37	psw33f10	36	55	39	44	42	34	100

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Unrotated Factor Matrix

		Factors 1	2	3	4	5
SORTS						
1	sw37f15	0.5536	-0.2249	-0.3041	0.0492	0.1702
2	sw48f05	0.7354	-0.3262	0.1648	0.0347	0.1807
3	sw54f12	0.3995	-0.2097	-0.0715	-0.0291	-0.2474
4	sw45f09	0.6666	-0.1633	-0.1949	-0.0298	-0.0947
5	sw59f15	0.4961	-0.3374	-0.0709	0.1037	-0.0825
6	sw61f18	0.5919	-0.4295	0.0763	0.0772	-0.0577
7	sw55f33	0.6077	-0.2603	0.2475	0.4330	-0.2017
8	sw51f11	0.7282	-0.2834	0.2363	-0.2159	0.0525
9	sw36m03	0.6256	-0.0379	-0.2740	-0.2035	0.1962
10	sw53m22	0.5749	-0.1190	0.0763	-0.1819	0.2264
11	sw55f13	0.6166	-0.3503	0.2174	0.1479	0.1762
12	sw59f38	0.4186	-0.0376	-0.2436	0.1664	0.1927
13	sw55f03	0.5718	-0.2788	-0.1194	0.0053	-0.2344
14	sw27f01	0.6656	-0.1399	0.1402	-0.2005	-0.1750
15	nsw54f30	0.6119	-0.1041	0.1025	0.2230	-0.1795
16	nsw62f40	0.4900	-0.3862	0.1766	0.0958	-0.1061
17	nsw51f25	0.6732	-0.2279	-0.1146	-0.0807	-0.0239
18	nsw53f31	0.7437	-0.1595	-0.0981	0.0642	0.1260
19	nsw50m15	0.7163	0.0441	-0.0953	-0.0131	0.1036
20	nsw54m13	0.5142	-0.2446	0.2635	0.3729	0.2669
21	nsw57m21	0.4550	-0.2989	-0.0898	0.0210	0.2780
22	nsw33f06	0.4622	-0.2229	0.1201	-0.3083	0.0306
23	nsw38f01	0.7108	-0.2262	0.0352	-0.2853	-0.0931
24	nsw47f20	0.5773	-0.1873	0.1569	0.1043	-0.1798
25	nsw30f04	0.7128	-0.1233	-0.1556	-0.1912	-0.1652
26	psw24f04	0.2697	0.6647	0.1442	-0.1213	-0.1041
27	psw53m26	0.0703	0.4707	0.1020	0.0046	-0.0557
28	psw23m01	0.1198	0.6687	0.0837	-0.2159	-0.0263
29	psw47f06	0.0820	0.4920	0.0383	-0.2481	0.1041
30	psw49f23	0.0894	0.7088	0.0289	-0.0726	0.1414
31	psw22f05	0.0531	0.5143	-0.3372	0.0997	-0.1853
32	psw36f01	-0.0055	0.7587	-0.1009	0.1890	-0.0278
33	psw21f03	0.2860	0.5213	0.0059	0.1434	0.2000
34	psw32f07	0.1736	0.7547	0.0456	-0.1534	0.0789
35	psw25f01	0.1235	0.3959	0.1866	0.0563	-0.1267
36	psw46m03	0.3224	0.3787	0.0774	0.2267	0.1324
37	psw33f10	0.1396	0.6584	0.0839	0.2551	-0.2733
Eigenvalues		9.5202	5.7209	0.9420	1.1911	0.9524
% expl.Var.		26	15	3	3	3

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Cumulative Communalities Matrix

	Factors 1 Thru 1	2	3	4	5
SORTS					
1 sw37f15	0.3065	0.3571	0.4496	0.4520	0.4809
2 sw48f05	0.5408	0.6472	0.6744	0.6756	0.7082
3 sw54f12	0.1596	0.2035	0.2087	0.2095	0.2707
4 sw45f09	0.4444	0.4711	0.5091	0.5100	0.5189
5 sw59f15	0.2461	0.3600	0.3650	0.3757	0.3825
6 sw61f18	0.3503	0.5348	0.5406	0.5466	0.5499
7 sw55f33	0.3693	0.4370	0.4983	0.6858	0.7264
8 sw51f11	0.5303	0.6106	0.6664	0.7130	0.7158
9 sw36m03	0.3914	0.3929	0.4679	0.5094	0.5478
10 sw53m22	0.3305	0.3447	0.3505	0.3836	0.4348
11 sw55f13	0.3802	0.5029	0.5502	0.5720	0.6031
12 sw59f38	0.1752	0.1766	0.2360	0.2636	0.3008
13 sw55f03	0.3269	0.4047	0.4189	0.4190	0.4739
14 sw27f01	0.4430	0.4626	0.4822	0.5224	0.5531
15 nsw54f30	0.3744	0.3853	0.3958	0.4455	0.4778
16 nsw62f40	0.2401	0.3893	0.4204	0.4296	0.4409
17 nsw51f25	0.4532	0.5051	0.5182	0.5247	0.5253
18 nsw53f31	0.5531	0.5785	0.5881	0.5923	0.6081
19 nsw50m15	0.5131	0.5150	0.5241	0.5243	0.5350
20 nsw54m13	0.2645	0.3243	0.3937	0.5328	0.6040
21 nsw57m21	0.2070	0.2963	0.3044	0.3048	0.3821
22 nsw33f06	0.2136	0.2633	0.2777	0.3728	0.3737
23 nsw38f01	0.5052	0.5564	0.5576	0.6390	0.6477
24 nsw47f20	0.3333	0.3684	0.3930	0.4038	0.4362
25 nsw30f04	0.5081	0.5232	0.5475	0.5840	0.6113
26 psw24f04	0.0727	0.5146	0.5354	0.5501	0.5609
27 psw53m26	0.0049	0.2265	0.2369	0.2369	0.2400
28 psw23m01	0.0144	0.4615	0.4685	0.5151	0.5158
29 psw47f06	0.0067	0.2488	0.2502	0.3118	0.3226
30 psw49f23	0.0080	0.5105	0.5113	0.5166	0.5366
31 psw22f05	0.0028	0.2673	0.3811	0.3910	0.4253
32 psw36f01	0.0000	0.5756	0.5858	0.6215	0.6223
33 psw21f03	0.0818	0.3535	0.3535	0.3741	0.4141
34 psw32f07	0.0301	0.5997	0.6018	0.6254	0.6316
35 psw25f01	0.0153	0.1720	0.2068	0.2100	0.2260
36 psw46m03	0.1039	0.2474	0.2534	0.3048	0.3223
37 psw33f10	0.0195	0.4530	0.4600	0.5251	0.5998
cum% expl.Var.	26	41	44	47	50

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Factor Matrix with an X Indicating a Defining Sort

		Loadings	
QSORT		1	2
1	sw37f15	0.5536X	-0.2249
2	sw48f05	0.7354	-0.3262
3	sw54f12	0.3995X	-0.2097
4	sw45f09	0.6666X	-0.1633
5	sw59f15	0.4961	-0.3374
6	sw61f18	0.5919	-0.4295
7	sw55f33	0.6077	-0.2603
8	sw51f11	0.7282X	-0.2834
9	sw36m03	0.6256X	-0.0379
10	sw53m22	0.5749X	-0.1190
11	sw55f13	0.6166	-0.3503
12	sw59f38	0.4186X	-0.0376
13	sw55f03	0.5718X	-0.2788
14	sw27f01	0.6656X	-0.1399
15	nsw54f30	0.6119X	-0.1041
16	nsw62f40	0.4900	-0.3862
17	nsw51f25	0.6732X	-0.2279
18	nsw53f31	0.7437X	-0.1595
19	nsw50m15	0.7163X	0.0441
20	nsw54m13	0.5142	-0.2446
21	nsw57m21	0.4550X	-0.2989
22	nsw33f06	0.4622X	-0.2229
23	nsw38f01	0.7108X	-0.2262
24	nsw47f20	0.5773X	-0.1873
25	nsw30f04	0.7128X	-0.1233
26	psw24f04	0.2697	0.6647X
27	psw53m26	0.0703	0.4707X
28	psw23m01	0.1198	0.6687X
29	psw47f06	0.0820	0.4920X
30	psw49f23	0.0894	0.7088X
31	psw22f05	0.0531	0.5143
32	psw36f01	-0.0055	0.7587X
33	psw21f03	0.2860	0.5213X
34	psw32f07	0.1736	0.7547X
35	psw25f01	0.1235	0.3959X
36	psw46m03	0.3224	0.3787X
37	psw33f10	0.1396	0.6584X
% expl.Var.		26	15

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Free Distribution Data Results

QSORT		MEAN	ST.DEV.
1	sw37f15	0.000	2.700
2	sw48f05	0.000	2.700
3	sw54f12	0.000	2.700
4	sw45f09	0.000	2.700
5	sw59f15	0.000	2.700
6	sw61f18	0.000	2.700
7	sw55f33	0.000	2.700
8	sw51f11	0.000	2.700
9	sw36m03	0.000	2.700
10	sw53m22	0.000	2.700
11	sw55f13	0.000	2.700
12	sw59f38	0.000	2.700
13	sw55f03	0.000	2.700
14	sw27f01	0.000	2.700
15	nsw54f30	0.000	2.700
16	nsw62f40	0.000	2.700
17	nsw51f25	0.000	2.700
18	nsw53f31	0.000	2.700
19	nsw50m15	0.000	2.700
20	nsw54m13	0.000	2.700
21	nsw57m21	0.000	2.700
22	nsw33f06	0.000	2.700
23	nsw38f01	0.000	2.700
24	nsw47f20	0.000	2.700
25	nsw30f04	0.000	2.700
26	psw24f04	0.000	2.700
27	psw53m26	0.000	2.700
28	psw23m01	0.000	2.700
29	psw47f06	0.000	2.700
30	psw49f23	0.000	2.700
31	psw22f05	0.000	2.700
32	psw36f01	0.000	2.700
33	psw21f03	0.000	2.700
34	psw32f07	0.000	2.700
35	psw25f01	0.000	2.700
36	psw46m03	0.000	2.700
37	psw33f10	0.000	2.700

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Factor Scores with Corresponding Ranks

Factors No.	Statement	No.	1		2	
1	a\	1	0.85	13	0.16	32
2	b	2	-0.14	37	-0.89	45
3	c	3	1.19	8	0.23	30
4	d	4	0.91	11	-1.41	53
5	e	5	-1.78	59	-1.32	51
6	f	6	0.03	33	-0.69	43
7	g	7	-0.30	40	-1.39	52
8	h	8	1.33	5	-1.54	55
9	i	9	-0.60	44	-1.08	47
10	j	10	1.32	6	-1.72	59
11	k	11	-0.81	47	-1.66	57
12	l	12	-1.74	57	0.10	33
13	m	13	0.18	28	0.75	16
14	n	14	0.68	19	-0.20	39
15	o	15	-0.40	42	0.46	24
16	p	16	-1.65	55	0.22	31
17	q	17	-0.95	48	1.11	8
18	r	18	-1.26	51	1.80	1
19	s	19	0.00	35	0.70	19
20	t	20	0.19	27	-1.25	49
21	u	21	-1.08	49	-0.40	41
22	v	22	0.07	31	-1.72	60
23	w	23	0.63	21	0.46	23
24	x	24	0.74	16	0.79	14
25	y	25	0.72	17	1.19	5
26	z	26	-0.62	45	0.30	27
27	a\a\	27	-1.49	52	0.05	35
28	bb	28	-1.63	54	-1.06	46
29	cc	29	0.04	32	0.10	34
30	dd	30	0.58	22	1.50	2
31	ee	31	0.78	14	-1.43	54
32	ff	32	0.75	15	-1.68	58
33	gg	33	0.14	30	-0.32	40
34	hh	34	-0.16	39	-1.17	48
35	ii	35	1.46	2	0.59	21
36	jj	36	-0.43	43	-0.77	44
37	kk	37	0.01	34	1.18	6
38	ll	38	0.16	29	0.44	25
39	mm	39	-1.76	58	0.74	17
40	nn	40	1.27	7	0.57	22
41	oo	41	0.36	26	1.05	10
42	pp	42	-0.13	36	0.03	36
43	qq	43	0.85	12	0.24	29

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Factor Scores with Corresponding Ranks

Factors

No.	Statement	.	No.	1		2	
44	rr		44	0.49	23	1.39	4
45	ss		45	1.38	3	0.90	13
46	tt		46	-1.98	60	1.13	7
47	uu		47	1.78	1	0.28	28
48	vv		48	1.01	10	0.70	18
49	ww		49	-0.73	46	-0.68	42
50	xx		50	-1.56	53	1.41	3
51	yy		51	1.12	9	0.78	15
52	zz		52	0.64	20	-1.59	56
53	a\a\a\		53	-0.15	38	-1.30	50
54	bbb		54	0.72	18	0.00	37
55	ccc		55	1.33	4	1.08	9
56	ddd		56	0.45	24	1.00	12
57	eee		57	-1.69	56	0.41	26
58	fff		58	-0.37	41	0.62	20
59	ggg		59	0.44	25	-0.18	38
60	hhh		60	-1.16	50	1.00	11

Correlations Between Factor Scores

	1	2
1	1.0000	-0.0373
2	-0.0373	1.0000

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Factor Scores -- For Factor 1

No.	Statement	No.	Z-SCORES
47	uu	47	1.776
35	ii	35	1.456
45	ss	45	1.383
55	ccc	55	1.333
8	h	8	1.330
10	j	10	1.317
40	nn	40	1.266
3	c	3	1.191
51	yy	51	1.121
48	vv	48	1.014
4	d	4	0.914
43	qq	43	0.853
1	a\	1	0.845
31	ee	31	0.779
32	ff	32	0.749
24	x	24	0.737
25	y	25	0.719
54	bbb	54	0.717
14	n	14	0.679
52	zz	52	0.639
23	w	23	0.625
30	dd	30	0.580
44	rr	44	0.494
56	ddd	56	0.455
59	ggg	59	0.438
41	oo	41	0.355
20	t	20	0.186
13	m	13	0.183
38	ll	38	0.158
33	gg	33	0.137
22	v	22	0.069
29	cc	29	0.044
6	f	6	0.025
37	kk	37	0.011
19	s	19	-0.002
42	pp	42	-0.134
2	b	2	-0.136
53	a\a\a\	53	-0.148
34	hh	34	-0.161
7	g	7	-0.297
58	fff	58	-0.370
15	o	15	-0.401
36	jj	36	-0.434

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Factor Scores -- For Factor 1

No.	Statement	No.	Z-SCORES
9	i	9	-0.604
26	z	26	-0.617
49	ww	49	-0.728
11	k	11	-0.808
17	q	17	-0.952
21	u	21	-1.077
60	hhh	60	-1.157
18	r	18	-1.259
27	a\a\	27	-1.491
50	xx	50	-1.558
28	bb	28	-1.633
16	p	16	-1.655
57	eee	57	-1.692
12	l	12	-1.745
39	mm	39	-1.757
5	e	5	-1.785
46	tt	46	-1.978

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Factor Scores -- For Factor 2

No.	Statement	No.	Z-SCORES
18	r	18	1.805
30	dd	30	1.504
50	xx	50	1.414
44	rr	44	1.386
25	y	25	1.185
37	kk	37	1.180
46	tt	46	1.133
17	q	17	1.107
55	ccc	55	1.076
41	oo	41	1.046
60	hhh	60	1.002
56	ddd	56	1.001
45	ss	45	0.895
24	x	24	0.795
51	yy	51	0.780
13	m	13	0.748
39	mm	39	0.738
48	vv	48	0.699
19	s	19	0.696
58	fff	58	0.619
35	ii	35	0.593
40	nn	40	0.566
23	w	23	0.464
15	o	15	0.459
38	ll	38	0.442
57	eee	57	0.410
26	z	26	0.301
47	uu	47	0.280
43	qq	43	0.237
3	c	3	0.229
16	p	16	0.218
1	a\	1	0.157
12	l	12	0.104
29	cc	29	0.095
27	a\a\	27	0.047
42	pp	42	0.033
54	bbb	54	0.000
59	ggg	59	-0.180
14	n	14	-0.200
33	gg	33	-0.316
21	u	21	-0.402
49	ww	49	-0.677
6	f	6	-0.689

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Factor Scores -- For Factor 2

No.	Statement	No.	Z-SCORES
36	jj	36	-0.768
2	b	2	-0.893
28	bb	28	-1.064
9	i	9	-1.081
34	hh	34	-1.166
20	t	20	-1.250
53	a\a\a\	53	-1.301
5	e	5	-1.324
7	g	7	-1.386
4	d	4	-1.412
31	ee	31	-1.426
8	h	8	-1.538
52	zz	52	-1.592
11	k	11	-1.660
32	ff	32	-1.681
10	j	10	-1.716
22	v	22	-1.722

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Descending Array of Differences Between Factors 1 and 2

No.	Statement	No.	Type 1	Type 2	Difference
10	j	10	1.317	-1.716	3.033
8	h	8	1.330	-1.538	2.867
32	ff	32	0.749	-1.681	2.430
4	d	4	0.914	-1.412	2.326
52	zz	52	0.639	-1.592	2.231
31	ee	31	0.779	-1.426	2.205
22	v	22	0.069	-1.722	1.791
47	uu	47	1.776	0.280	1.496
20	t	20	0.186	-1.250	1.436
53	a\a\a\	53	-0.148	-1.301	1.152
7	g	7	-0.297	-1.386	1.089
34	hh	34	-0.161	-1.166	1.005
3	c	3	1.191	0.229	0.962
14	n	14	0.679	-0.200	0.879
35	ii	35	1.456	0.593	0.863
11	k	11	-0.808	-1.660	0.852
2	b	2	-0.136	-0.893	0.757
54	bbb	54	0.717	0.000	0.717
6	f	6	0.025	-0.689	0.715
40	nn	40	1.266	0.566	0.700
1	a\	1	0.845	0.157	0.688
59	ggg	59	0.438	-0.180	0.618
43	qq	43	0.853	0.237	0.616
45	ss	45	1.383	0.895	0.488
9	i	9	-0.604	-1.081	0.477
33	gg	33	0.137	-0.316	0.453
51	yy	51	1.121	0.780	0.341
36	jj	36	-0.434	-0.768	0.334
48	vv	48	1.014	0.699	0.315
55	ccc	55	1.333	1.076	0.257
23	w	23	0.625	0.464	0.161
49	ww	49	-0.728	-0.677	-0.051
29	cc	29	0.044	0.095	-0.051
24	x	24	0.737	0.795	-0.057
42	pp	42	-0.134	0.033	-0.167
38	ll	38	0.158	0.442	-0.284
5	e	5	-1.785	-1.324	-0.461
25	y	25	0.719	1.185	-0.466
56	ddd	56	0.455	1.001	-0.547
13	m	13	0.183	0.748	-0.566
28	bb	28	-1.633	-1.064	-0.569
21	u	21	-1.077	-0.402	-0.675
41	oo	41	0.355	1.046	-0.690

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Descending Array of Differences Between Factors 1 and 2

No.	Statement	No.	Type 1	Type 2	Difference
19	s	19	-0.002	0.696	-0.698
15	o	15	-0.401	0.459	-0.860
44	rr	44	0.494	1.386	-0.893
26	z	26	-0.617	0.301	-0.918
30	dd	30	0.580	1.504	-0.924
58	fff	58	-0.370	0.619	-0.989
37	kk	37	0.011	1.180	-1.168
27	a\a\	27	-1.491	0.047	-1.537
12	l	12	-1.745	0.104	-1.848
16	p	16	-1.655	0.218	-1.873
17	q	17	-0.952	1.107	-2.059
57	eee	57	-1.692	0.410	-2.102
60	hhh	60	-1.157	1.002	-2.158
39	mm	39	-1.757	0.738	-2.495
50	xx	50	-1.558	1.414	-2.972
18	r	18	-1.259	1.805	-3.064
46	tt	46	-1.978	1.133	-3.111

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Exact Factor Scores (ß la SPSS) in Z-Score and T-Score units

No.	Statement	No.	1		2	
1	a\	1	0.00	50	0.00	50
2	b	2	0.00	50	0.00	50
3	c	3	0.00	50	0.00	50
4	d	4	0.00	50	0.00	50
5	e	5	0.00	50	0.00	50
6	f	6	0.00	50	0.00	50
7	g	7	0.00	50	0.00	50
8	h	8	0.00	50	0.00	50
9	i	9	0.00	50	0.00	50
10	j	10	0.00	50	0.00	50
11	k	11	0.00	50	0.00	50
12	l	12	0.00	50	0.00	50
13	m	13	0.00	50	0.00	50
14	n	14	0.00	50	0.00	50
15	o	15	0.00	50	0.00	50
16	p	16	0.00	50	0.00	50
17	q	17	0.00	50	0.00	50
18	r	18	0.00	50	0.00	50
19	s	19	0.00	50	0.00	50
20	t	20	0.00	50	0.00	50
21	u	21	0.00	50	0.00	50
22	v	22	0.00	50	0.00	50
23	w	23	0.00	50	0.00	50
24	x	24	0.00	50	0.00	50
25	y	25	0.00	50	0.00	50
26	z	26	0.00	50	0.00	50
27	a\a\	27	0.00	50	0.00	50
28	bb	28	0.00	50	0.00	50
29	cc	29	0.00	50	0.00	50
30	dd	30	0.00	50	0.00	50
31	ee	31	0.00	50	0.00	50
32	ff	32	0.00	50	0.00	50
33	gg	33	0.00	50	0.00	50
34	hh	34	0.00	50	0.00	50
35	ii	35	0.00	50	0.00	50
36	jj	36	0.00	50	0.00	50
37	kk	37	0.00	50	0.00	50
38	ll	38	0.00	50	0.00	50
39	mm	39	0.00	50	0.00	50
40	nn	40	0.00	50	0.00	50
41	oo	41	0.00	50	0.00	50
42	pp	42	0.00	50	0.00	50
43	qq	43	0.00	50	0.00	50

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Exact Factor Scores (ß la SPSS) in Z-Score and T-Score units

Factors

No.	Statement	No.	1		2	
44	rr	44	0.00	50	0.00	50
45	ss	45	0.00	50	0.00	50
46	tt	46	0.00	50	0.00	50
47	uu	47	0.00	50	0.00	50
48	vv	48	0.00	50	0.00	50
49	ww	49	0.00	50	0.00	50
50	xx	50	0.00	50	0.00	50
51	yy	51	0.00	50	0.00	50
52	zz	52	0.00	50	0.00	50
53	a\a\a\	53	0.00	50	0.00	50
54	bbb	54	0.00	50	0.00	50
55	ccc	55	0.00	50	0.00	50
56	ddd	56	0.00	50	0.00	50
57	eee	57	0.00	50	0.00	50
58	fff	58	0.00	50	0.00	50
59	ggg	59	0.00	50	0.00	50
60	hhh	60	0.00	50	0.00	50

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Factor Q-Sort Values for Each Statement

Factor Arrays

No.	Statement	No.	1	2
1	a\	1	2	0
2	b	2	-1	-2
3	c	3	3	0
4	d	4	3	-3
5	e	5	-5	-3
6	f	6	0	-2
7	g	7	-1	-3
8	h	8	4	-4
9	i	9	-2	-2
10	j	10	4	-5
11	k	11	-2	-4
12	l	12	-4	0
13	m	13	0	2
14	n	14	1	-1
15	o	15	-1	1
16	p	16	-4	0
17	q	17	-2	3
18	r	18	-3	5
19	s	19	0	1
20	t	20	0	-3
21	u	21	-3	-1
22	v	22	0	-5
23	w	23	1	1
24	x	24	2	2
25	y	25	2	4
26	z	26	-2	0
27	a\a\	27	-3	0
28	bb	28	-4	-2
29	cc	29	0	0
30	dd	30	1	5
31	ee	31	2	-4
32	ff	32	2	-5
33	gg	33	0	-1
34	hh	34	-1	-2
35	ii	35	5	1
36	jj	36	-2	-2
37	kk	37	0	4
38	ll	38	0	1
39	mm	39	-5	2
40	nn	40	4	1
41	oo	41	0	3
42	pp	42	-1	-1
43	qq	43	3	0
44	rr	44	1	4

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Factor Arrays

No.	Statement	No.	1	2
45	ss	45	5	2
46	tt	46	-5	4
47	uu	47	5	0
48	vv	48	3	2
49	ww	49	-2	-1
50	xx	50	-3	5
51	yy	51	3	2
52	zz	52	1	-4
53	a\a\a\	53	-1	-3
54	bbb	54	2	-1
55	ccc	55	4	3
56	ddd	56	1	3
57	eee	57	-4	0
58	fff	58	-1	1
59	ggg	59	1	-1
60	hhh	60	-3	3

Variance = 7.167 St. Dev. = 2.677

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Factor Q-Sort Values for Statements sorted by Consensus vs. Disagreement (Variance across Factor Z-Scores)

Factor Arrays

No.	Statement	No.	1	2
49	ww	49	-2	-1
29	cc	29	0	0
24	x	24	2	2
23	w	23	1	1
42	pp	42	-1	-1
55	ccc	55	4	3
38	ll	38	0	1
48	vv	48	3	2
36	jj	36	-2	-2
51	yy	51	3	2
33	gg	33	0	-1
5	e	5	-5	-3
25	y	25	2	4
9	i	9	-2	-2
45	ss	45	5	2
56	ddd	56	1	3
13	m	13	0	2
28	bb	28	-4	-2
43	qq	43	3	0
59	ggg	59	1	-1
21	u	21	-3	-1
1	a\	1	2	0
41	oo	41	0	3
19	s	19	0	1
40	nn	40	4	1
6	f	6	0	-2
54	bbb	54	2	-1
2	b	2	-1	-2
11	k	11	-2	-4
15	o	15	-1	1
35	ii	35	5	1
14	n	14	1	-1
44	rr	44	1	4
26	z	26	-2	0
30	dd	30	1	5
3	c	3	3	0
58	fff	58	-1	1
34	hh	34	-1	-2
7	g	7	-1	-3
53	a\a\a\	53	-1	-3
37	kk	37	0	4
20	t	20	0	-3
47	uu	47	5	0
27	a\a\	27	-3	0

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Factor Arrays

No.	Statement	No.	1	2
22	v	22	0	-5
12	l	12	-4	0
16	p	16	-4	0
17	q	17	-2	3
57	eee	57	-4	0
60	hhh	60	-3	3
31	ee	31	2	-4
52	zz	52	1	-4
4	d	4	3	-3
32	ff	32	2	-5
39	mm	39	-5	2
8	h	8	4	-4
50	xx	50	-3	5
10	j	10	4	-5
18	r	18	-3	5
46	tt	46	-5	4

Factor Characteristics

	Factors	
	1	2
No. of Defining Variables	18	11
Average Rel. Coef.	0.800	0.800
Composite Reliability	0.986	0.978
S.E. of Factor Z-Scores	0.117	0.149

Standard Errors for Differences in Factor Z-Scores

(Diagonal Entries Are S.E. Within Factors)

Factors	1	2
1	0.166	0.190
2	0.190	0.211

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Distinguishing Statements for Factor 1

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value (Q-SV) and the Z-Score (Z-SCR) are Shown.

Factors

No.	Statement	No.	1 Q-SV	1 Z-SCR	2 Q-SV	2 Z-SCR
47	uu	47	5	1.78*	0	0.28
35	ii	35	5	1.46*	1	0.59
45	ss	45	5	1.38	2	0.90
8	h	8	4	1.33*	-4	-1.54
10	j	10	4	1.32*	-5	-1.72
40	nn	40	4	1.27*	1	0.57
3	c	3	3	1.19*	0	0.23
4	d	4	3	0.91*	-3	-1.41
43	qq	43	3	0.85*	0	0.24
1	a\	1	2	0.85*	0	0.16
31	ee	31	2	0.78*	-4	-1.43
32	ff	32	2	0.75*	-5	-1.68
25	y	25	2	0.72	4	1.19
54	bbb	54	2	0.72*	-1	0.00
14	n	14	1	0.68*	-1	-0.20
52	zz	52	1	0.64*	-4	-1.59
30	dd	30	1	0.58*	5	1.50
44	rr	44	1	0.49*	4	1.39
56	ddd	56	1	0.45*	3	1.00
59	ggg	59	1	0.44*	-1	-0.18
41	oo	41	0	0.36*	3	1.05
20	t	20	0	0.19*	-3	-1.25
13	m	13	0	0.18*	2	0.75
33	gg	33	0	0.14	-1	-0.32
22	v	22	0	0.07*	-5	-1.72
6	f	6	0	0.03*	-2	-0.69
37	kk	37	0	0.01*	4	1.18
19	s	19	0	0.00*	1	0.70
2	b	2	-1	-0.14*	-2	-0.89
53	a\a\a\	53	-1	-0.15*	-3	-1.30
34	hh	34	-1	-0.16*	-2	-1.17
7	g	7	-1	-0.30*	-3	-1.39
58	fff	58	-1	-0.37*	1	0.62
15	o	15	-1	-0.40*	1	0.46
9	i	9	-2	-0.60	-2	-1.08
26	z	26	-2	-0.62*	0	0.30
11	k	11	-2	-0.81*	-4	-1.66
17	q	17	-2	-0.95*	3	1.11
21	u	21	-3	-1.08*	-1	-0.40
60	hhh	60	-3	-1.16*	3	1.00
18	r	18	-3	-1.26*	5	1.80
27	a\a\	27	-3	-1.49*	0	0.05
50	xx	50	-3	-1.56*	5	1.41
28	bb	28	-4	-1.63*	-2	-1.06
16	p	16	-4	-1.65*	0	0.22
57	eee	57	-4	-1.69*	0	0.41
12	l	12	-4	-1.74*	0	0.10
39	mm	39	-5	-1.76*	2	0.74
5	e	5	-5	-1.78	-3	-1.32
46	tt	46	-5	-1.98*	4	1.13

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Consensus Statements -- Those That Do Not Distinguish Between ANY Pair of Factors.

All Listed Statements are Non-Significant at P>.01, and Those Flagged With an * are also Non-Significant at P>.05.

Factors

			1		2	
No.	Statement	No.	Q-SV	Z-SCR	Q-SV	Z-SCR
5	e	5	-5	-1.78	-3	-1.32
9	i	9	-2	-0.60	-2	-1.08
23*	w	23	1	0.63	1	0.46
24*	x	24	2	0.74	2	0.79
25	y	25	2	0.72	4	1.19
29*	cc	29	0	0.04	0	0.10
33	gg	33	0	0.14	-1	-0.32
36*	jj	36	-2	-0.43	-2	-0.77
38*	ll	38	0	0.16	1	0.44
42*	pp	42	-1	-0.13	-1	0.03
45	ss	45	5	1.38	2	0.90
48*	vv	48	3	1.01	2	0.70
49*	ww	49	-2	-0.73	-1	-0.68
51*	yy	51	3	1.12	2	0.78
55*	ccc	55	4	1.33	3	1.08

QANALYZE was completed at 09:55:46

Appendix 12a List of Invited Conference Presentations Based on Thesis Material

June 2015: Social Work Education in Europe – Towards 2025: European Association of Schools of Social Work, Milan, Italy: *Exploring Human Subjectivity Using Q-Methodology*.

April 2015: 5th European Conference for Social Work Research, Ljubljana, Slovenia: *Exploring Human Subjectivity Using Q-Methodology*.

May 2014: Athens Institute for Education and Research, Athens, Greece: *Knowledge Production and Public Accountability: Q-Methodology, Pragmatism, Knowledge Forms and Professional Practice.*

April 2014: 4th European Conference for Social Work Research, Bolzano, Italy: *Q-Methodology, Pragmatism, Knowledge Forms and Social Work Practice*

March 2014: Fachhochschule, Soziale Arbeit, FH Campus, Vienna, Austria: *Pragmatism and Welfare Systems: An Example from the UK.*

October 2012: Hochschule, Merseburg, Germany: *Knowledge for Practice in Work with Children and their Families*. Invited Conference Presentation and Paper.

June 2012: Fachhochschule, Soziale Arbeit, FH Campus, Vienna, Austria: *European Perspectives on Systemic Practice – Pragmatic Lessons from the UK?* Invited Conference Presentation & Paper.

May 2012: The University of Helsinki, Finland: *'Systemic thinking, welfare policy and pragmatic philosophy - a meeting of ideas'*. Invited Conference Presentation and Paper.

March 2012: The Robert Gordon University: *Systemic Social Work Throughout Europe: Pragmatic Perspectives*. Hosted in conjunction with ASYS [Arbeitskreis für Systemische Sozialarbeit, Beratung und Supervision], Vienna, Austria; the University of Helsinki, Finland; Fachholschule Campus, Vienna, Austria; Hochschule, Merseburg, Germany; Hochschule, Lucerne, Switzerland and the London Borough of Hackney. Conference Organiser, Chair and Presenter. The Robert Gordon University, Aberdeen.